GExperts Learning Academy

Certificates

Certificate programme study and facilitator manual

40 courses | 10 modules per course | 10 practice questions per module

Study resource and facilitator reference

Draft content for learning and review. Course pages on the Academy website contain interactive module navigation and answer reveals. This resource does not confer an accredited qualification or external certification. Verify laws, standards, site procedures and awarding-body requirements before delivery.

Contents and use

Use the module objectives, lessons, teaching notes and activities to guide facilitated study. Learners should attempt the practice questions before checking the answer key at the end of each module.

C-019 | Certificate in Petroleum Industry Fundamentals

Level: C | Duration: 8 weeks | Audience: Learners appropriate to the stated programme level

8 weeks C programme focused on Certificate in Petroleum Industry Fundamentals, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Petroleum Industry Fundamentals.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Petroleum value chain

Learning objectives

- Explain petroleum value chain, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Petroleum value chain
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Industry Fundamentals

Teaching notes

Teaching notes

Core explanation. Exploration tests whether a petroleum system exists; appraisal narrows uncertainty; development creates wells and facilities; production converts reservoir fluids into saleable streams. Transport, refining and marketing connect production to users. Show each interface on a reservoir-to-customer diagram, including ownership and custody transfer.

Decision logic. A discovery is evidence of hydrocarbons, not proof of an investable project. Commerciality also requires recoverable volume, deliverability, market access, finance, permits and acceptable impacts. Ask learners which organisation owns each decision and which evidence is still missing.

Worked example. A fictional discovery has oil samples but no flow test. Its next decision is appraisal, not a promised first-production date.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Draw seven value-chain stages and identify one supplier opportunity and one evidence requirement at each.

Model answer guide. Accept stage-specific evidence and distinguish sampling from sustained deliverability. Reject guaranteed employment or production dates.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Draw seven value-chain stages and identify one supplier opportunity and one evidence requirement at each.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of petroleum value chain?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about petroleum value chain?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about petroleum value chain be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating petroleum value chain?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in petroleum value chain?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning petroleum value chain?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for petroleum value chain. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on petroleum value chain contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about petroleum value chain?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in petroleum value chain?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Well architecture and drilling systems

Learning objectives

- Explain well architecture and drilling systems, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Well architecture and drilling systems
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Industry Fundamentals

Teaching notes

Teaching notes

Core explanation. A well connects the reservoir to the surface through a designed sequence of hole sections, casing and barriers. Explain measured depth versus true vertical depth, wellhead functions and interfaces with rig, marine riser and subsea equipment.

Decision logic. Well design starts with reservoir objectives, pressures, temperature, hazards and data uncertainty. Casing depth and equipment ratings require engineering calculations and independent review. This course uses diagrams and educational calculations, never an executable drilling programme.

Worked example. A deviated well has greater measured depth than vertical depth; fluid hydrostatic head relates to vertical depth.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Label a fictional well schematic and list five missing design inputs.

Model answer guide. Include pore pressure, fracture limits, temperature, geology and service conditions; distinguish equipment identification from design approval.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Label a fictional well schematic and list five missing design inputs.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of well architecture and drilling systems?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about well architecture and drilling systems?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about well architecture and drilling systems be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating well architecture and drilling systems?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in well architecture and drilling systems?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning well architecture and drilling systems?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for well architecture and drilling systems. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on well architecture and drilling systems contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about well architecture and drilling systems?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in well architecture and drilling systems?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Deepwater development concept selection

Learning objectives

- Explain deepwater development concept selection, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Deepwater development concept selection
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Industry Fundamentals

Teaching notes

Teaching notes

Core explanation. Compare subsea tieback, standalone floating production and shore-linked concepts against reservoir, metocean, water depth, distance and product requirements. A concept is an integrated system of wells, facilities, export and support infrastructure. Show the interfaces before scoring alternatives.

Decision logic. Apply mandatory constraints before weighted scoring. Document weighting, uncertainty and options that fail a hard requirement. Lowest capital cost may increase operating risk or reduce recovery. Revisit selection when appraisal or market evidence changes.

Worked example. Concept A costs less initially but cannot accommodate the high gas case; Concept B has expansion capacity.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a concept matrix with technical, commercial, environmental and local-capability criteria.

Model answer guide. Reject infeasible options before ranking and include lifecycle cost, flexibility and uncertainty.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a concept matrix with technical, commercial, environmental and local-capability criteria.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of deepwater development concept selection?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about deepwater development concept selection?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about deepwater development concept selection be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating deepwater development concept selection?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in deepwater development concept selection?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning deepwater development concept selection?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for deepwater development concept selection. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on deepwater development concept selection contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about deepwater development concept selection?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in deepwater development concept selection?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Refining gas processing and product markets

Learning objectives

- Explain refining gas processing and product markets, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Refining gas processing and product markets
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Industry Fundamentals

Teaching notes

Teaching notes

Core explanation. Refining separates crude into fractions and upgrades them to meet product needs. Distillation, conversion and treating perform different functions. Explain simple versus more complex configurations and the role of hydrogen, utilities and environmental controls.

Decision logic. A refinery investment requires feedstock security, product demand, scale, logistics, finance and regulatory feasibility. Local crude production does not by itself justify a refinery. Compare netbacks from export and processing under explicit assumptions.

Worked example. A fictional simple refinery produces fractions that do not match the domestic demand mix, requiring imports or exports anyway.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Develop a refinery-versus-export decision matrix.

Model answer guide. Include product specifications, market size, capital, utilities, emissions, feed assurance and logistics.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Develop a refinery-versus-export decision matrix.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of refining gas processing and product markets?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about refining gas processing and product markets?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about refining gas processing and product markets be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating refining gas processing and product markets?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in refining gas processing and product markets?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning refining gas processing and product markets?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for refining gas processing and product markets. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on refining gas processing and product markets contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about refining gas processing and product markets?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in refining gas processing and product markets?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Petroleum economics overview

Learning objectives

- Explain petroleum economics overview, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Petroleum economics overview
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Industry Fundamentals

Teaching notes

Teaching notes

Core explanation. Economics translates technical scenarios into cash-flow consequences. Define decision alternatives and the perspective first, then estimate volume, timing, realised prices, costs, fiscal payments and closure. Compare value, affordability and exposure together.

Decision logic. Use transparent assumptions with units and source dates. A model's arithmetic can be correct while its development assumptions are implausible. Separate geological uncertainty, engineering uncertainty and market risk, and show which could reverse the decision.

Worked example. Two fictional projects have equal undiscounted cash surplus but one receives cash five years later.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Explain which may have greater present value and what additional information is required.

Model answer guide. Earlier comparable cash usually has greater present value at positive discount rates; require timing and risk details.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Explain which may have greater present value and what additional information is required.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of petroleum economics overview?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about petroleum economics overview?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about petroleum economics overview be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating petroleum economics overview?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in petroleum economics overview?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning petroleum economics overview?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for petroleum economics overview. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on petroleum economics overview contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about petroleum economics overview?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in petroleum economics overview?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Offshore hazards and safe working

Learning objectives

- Explain offshore hazards and safe working, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Offshore hazards and safe working
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Industry Fundamentals

Teaching notes

Teaching notes

Core explanation. Hazards include moving machinery, hydrocarbons, pressure, electricity, weather, dropped objects and human exposure. Risk depends on likelihood and consequence in a defined task. Hazard recognition is the beginning of control, not permission to work.

Decision logic. Use elimination, substitution and engineered controls before relying only on procedures or PPE. Include manual handling and hazardous substances from the IMIST source themes. Train learners to stop and escalate unsafe conditions and remain within their authority.

Worked example. A walkway crosses a lifting zone. A helmet alone does not remove dropped-load exposure.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Identify five hazards in a fictional deck layout and propose controls in hierarchy order.

Model answer guide. Prefer segregation or changed routing over PPE alone; identify responsible verification.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Identify five hazards in a fictional deck layout and propose controls in hierarchy order.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of offshore hazards and safe working?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about offshore hazards and safe working?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about offshore hazards and safe working be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating offshore hazards and safe working?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in offshore hazards and safe working?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning offshore hazards and safe working?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for offshore hazards and safe working. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on offshore hazards and safe working contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about offshore hazards and safe working?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in offshore hazards and safe working?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Petroleum legislative architecture

Learning objectives

- Explain petroleum legislative architecture, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Petroleum legislative architecture
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Industry Fundamentals

Teaching notes

Teaching notes

Core explanation. Distinguish legislation, regulations, licence conditions, contracts and internal procedures. Public-law obligations and private agreements serve different functions. A commercial agreement cannot be assumed to waive a statutory requirement. Identify which authority and jurisdiction govern each issue.

Decision logic. Teach a verification method rather than unverified current legal rules: locate the official instrument, record amendment and commencement status, confirm applicability, and obtain qualified review. Classroom comparisons of concessions and PSAs are not statements of Namibia's adopted system.

Worked example. A contract refers to an old environmental instrument; the legal register must check current requirements before relying on it.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a legal-register template for exploration, development and operations.

Model answer guide. Include instrument, version, duty, applicability, owner, evidence and next review date.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a legal-register template for exploration, development and operations.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of petroleum legislative architecture?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about petroleum legislative architecture?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about petroleum legislative architecture be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating petroleum legislative architecture?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in petroleum legislative architecture?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning petroleum legislative architecture?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for petroleum legislative architecture. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on petroleum legislative architecture contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about petroleum legislative architecture?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in petroleum legislative architecture?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Certificate in Petroleum Industry Fundamentals: Communication and Escalation

Learning objectives

- Explain certificate in petroleum industry fundamentals: communication and escalation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Petroleum Industry Fundamentals: Communication and Escalation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Industry Fundamentals

Teaching notes

Teaching notes

Core explanation. Certificate in Petroleum Industry Fundamentals: Communication and Escalation describes a practical part of Certificate in Petroleum Industry Fundamentals. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in petroleum industry fundamentals: communication and escalation. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in petroleum industry fundamentals: communication and escalation while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in petroleum industry fundamentals: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in petroleum industry fundamentals: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in petroleum industry fundamentals: communication and escalation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in petroleum industry fundamentals: communication and escalation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in petroleum industry fundamentals: communication and escalation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in petroleum industry fundamentals: communication and escalation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in petroleum industry fundamentals: communication and escalation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in petroleum industry fundamentals: communication and escalation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in petroleum industry fundamentals: communication and escalation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in petroleum industry fundamentals: communication and escalation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in petroleum industry fundamentals: communication and escalation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in petroleum industry fundamentals: communication and escalation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Certificate in Petroleum Industry Fundamentals: Knowledge Check

Learning objectives

- Explain certificate in petroleum industry fundamentals: knowledge check, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Petroleum Industry Fundamentals: Knowledge Check
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Industry Fundamentals

Teaching notes

Teaching notes

Core explanation. Certificate in Petroleum Industry Fundamentals: Knowledge Check describes a practical part of Certificate in Petroleum Industry Fundamentals. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in petroleum industry fundamentals: knowledge check. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in petroleum industry fundamentals: knowledge check while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in petroleum industry fundamentals: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in petroleum industry fundamentals: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in petroleum industry fundamentals: knowledge check?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in petroleum industry fundamentals: knowledge check?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in petroleum industry fundamentals: knowledge check be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in petroleum industry fundamentals: knowledge check?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in petroleum industry fundamentals: knowledge check?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in petroleum industry fundamentals: knowledge check?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in petroleum industry fundamentals: knowledge check. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in petroleum industry fundamentals: knowledge check contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in petroleum industry fundamentals: knowledge check?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in petroleum industry fundamentals: knowledge check?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Petroleum Industry Fundamentals: Competence Review

Learning objectives

- Explain certificate in petroleum industry fundamentals: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Petroleum Industry Fundamentals: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Industry Fundamentals

Teaching notes

Teaching notes

Core explanation. Certificate in Petroleum Industry Fundamentals: Competence Review describes a practical part of Certificate in Petroleum Industry Fundamentals. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in petroleum industry fundamentals: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in petroleum industry fundamentals: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in petroleum industry fundamentals: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in petroleum industry fundamentals: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in petroleum industry fundamentals: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in petroleum industry fundamentals: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in petroleum industry fundamentals: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in petroleum industry fundamentals: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in petroleum industry fundamentals: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in petroleum industry fundamentals: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in petroleum industry fundamentals: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in petroleum industry fundamentals: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in petroleum industry fundamentals: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in petroleum industry fundamentals: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-020 | Certificate in Energy Geoscience and Formation Evaluation

Level: C | Duration: 8 weeks | Audience: Learners appropriate to the stated programme level

8 weeks C programme focused on Certificate in Energy Geoscience and Formation Evaluation, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Energy Geoscience and Formation Evaluation.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Petroleum systems and basin analysis

Learning objectives

- Explain petroleum systems and basin analysis, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Petroleum systems and basin analysis
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Geoscience and Formation Evaluation

Teaching notes

Teaching notes

Core explanation. Source rock generates hydrocarbons after sufficient burial and heating. Migration moves fluids toward reservoir rock; a seal and trap retain them. Timing matters: a trap formed after migration may be uncharged. Draw an events chart alongside a basin cross-section.

Decision logic. Separate regional play evidence from prospect-specific evidence. Basin analogues help frame hypotheses but cannot prove reservoir quality or charge in a new location. Ask what observation would falsify each element of the proposed petroleum system.

Worked example. A mapped trap exists, but the migration pathway is uncertain. Increasing trap area does not solve charge uncertainty.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Construct an elements-and-processes matrix with evidence, uncertainty and a next test.

Model answer guide. Require source, maturity, migration, reservoir, seal, trap and timing; identify charge as an unresolved dependency.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Construct an elements-and-processes matrix with evidence, uncertainty and a next test.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of petroleum systems and basin analysis?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about petroleum systems and basin analysis?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about petroleum systems and basin analysis be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating petroleum systems and basin analysis?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in petroleum systems and basin analysis?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning petroleum systems and basin analysis?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for petroleum systems and basin analysis. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on petroleum systems and basin analysis contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about petroleum systems and basin analysis?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in petroleum systems and basin analysis?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Structural geology and trapping

Learning objectives

- Explain structural geology and trapping, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Structural geology and trapping
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Geoscience and Formation Evaluation

Teaching notes

Teaching notes

Core explanation. Faults and folds alter reservoir geometry and can create closures. A fault can transmit or restrict flow depending on juxtaposition, fault-zone properties and stress. Explain structure contours and spill points using a simple tilted layer rather than a decorative map.

Decision logic. Interpretation should preserve multiple fault geometries where data are ambiguous. Check closure against depth uncertainty, reservoir juxtaposition and potential leakage. A fault polygon on a map is not direct proof of a sealing fault.

Worked example. Two interpretations place the spill point at different depths, changing closure area. Retain both cases until tied to better evidence.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Sketch a faulted closure, label spill point and propose a fault-seal uncertainty test.

Model answer guide. Credit consistent geometry and an explicit seal hypothesis; do not award certainty based only on fault presence.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Sketch a faulted closure, label spill point and propose a fault-seal uncertainty test.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of structural geology and trapping?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about structural geology and trapping?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about structural geology and trapping be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating structural geology and trapping?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in structural geology and trapping?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning structural geology and trapping?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for structural geology and trapping. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on structural geology and trapping contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about structural geology and trapping?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in structural geology and trapping?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Sedimentology and stratigraphy

Learning objectives

- Explain sedimentology and stratigraphy, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Sedimentology and stratigraphy
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Geoscience and Formation Evaluation

Teaching notes

Teaching notes

Core explanation. Depositional processes control grain size, sorting and architecture. Deepwater channels and lobes can form reservoirs, while mud-rich intervals may compartmentalise flow. Stratigraphy relates rock packages through time; lithological similarity alone does not prove hydraulic connection.

Decision logic. Use core, logs and seismic together. Explain how channel stacking changes net-to-gross and connectivity. Contrast a continuous sand body with isolated lenses, then ask how the same total sand volume can produce different well performance.

Worked example. Two wells contain sand at similar depths, but an intervening mud-rich channel margin could prevent communication.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Build two alternative depositional models from fictional well descriptions.

Model answer guide. Both models should honour observations and identify a discriminating observation such as pressure communication or additional seismic evidence.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Build two alternative depositional models from fictional well descriptions.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of sedimentology and stratigraphy?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about sedimentology and stratigraphy?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about sedimentology and stratigraphy be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating sedimentology and stratigraphy?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in sedimentology and stratigraphy?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning sedimentology and stratigraphy?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for sedimentology and stratigraphy. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on sedimentology and stratigraphy contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about sedimentology and stratigraphy?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in sedimentology and stratigraphy?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Seismic interpretation and depth uncertainty

Learning objectives

- Explain seismic interpretation and depth uncertainty, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Seismic interpretation and depth uncertainty
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Geoscience and Formation Evaluation

Teaching notes

Teaching notes

Core explanation. Seismic reflections arise from changes in acoustic properties. Teach acquisition, processing, well ties, horizon picking and fault interpretation as connected steps. A bright amplitude can reflect several causes; it is not automatically a hydrocarbon indicator.

Decision logic. Time-to-depth conversion depends on velocity. Track picking, velocity and structural uncertainties separately. Compare maps produced with alternative velocity models and explain how closure and proposed well location change. Interpret within survey resolution and processing limitations.

Worked example. For vertical two-way time of 2 seconds and constant velocity 2500 m/s, depth is 2500 m. A 10% velocity error changes that estimate by 250 m.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate both depth cases and explain the consequence for a prospect map.

Model answer guide. Use depth equals velocity times two-way time divided by two; note constant-velocity simplification.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Calculate both depth cases and explain the consequence for a prospect map.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of seismic interpretation and depth uncertainty?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about seismic interpretation and depth uncertainty?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about seismic interpretation and depth uncertainty be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating seismic interpretation and depth uncertainty?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in seismic interpretation and depth uncertainty?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning seismic interpretation and depth uncertainty?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for seismic interpretation and depth uncertainty. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on seismic interpretation and depth uncertainty contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about seismic interpretation and depth uncertainty?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in seismic interpretation and depth uncertainty?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Petrophysics and well logs

Learning objectives

- Explain petrophysics and well logs, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Petrophysics and well logs
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Geoscience and Formation Evaluation

Teaching notes

Teaching notes

Core explanation. Gamma ray supports lithology interpretation; resistivity responds to fluid and rock properties; density and neutron measurements help estimate porosity. Explain environmental corrections, tool depth matching and the difference between measured signals and interpreted rock properties.

Decision logic. A single curve cannot establish pay. Combine logs with core, fluid samples and pressure data. Document cutoffs and uncertainty. Shaly sands, invasion and borehole conditions can invalidate simple clean-sand assumptions and should prompt specialist review.

Worked example. An interval has high resistivity but low effective porosity. Do not classify it as productive pay from resistivity alone.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Annotate a fictional three-curve log and identify evidence needed before selecting pay.

Model answer guide. Look for integrated porosity, lithology, saturation and mobility evidence; flag borehole effects and non-unique responses.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Annotate a fictional three-curve log and identify evidence needed before selecting pay.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of petrophysics and well logs?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about petrophysics and well logs?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about petrophysics and well logs be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating petrophysics and well logs?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in petrophysics and well logs?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning petrophysics and well logs?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for petrophysics and well logs. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on petrophysics and well logs contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about petrophysics and well logs?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in petrophysics and well logs?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Formation evaluation and fluid evidence

Learning objectives

- Explain formation evaluation and fluid evidence, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Formation evaluation and fluid evidence
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Geoscience and Formation Evaluation

Teaching notes

Teaching notes

Core explanation. Formation evaluation combines logs, cores, pressure measurements and samples to infer fluid type, contacts, rock quality and mobility. Explain why sample contamination and poor pressure stabilisation can distort conclusions. Distinguish net reservoir from net pay.

Decision logic. Pressure gradients may help infer fluid contacts and connectivity but require consistent datum and quality control. Test alternative fluid models before extrapolating beyond the well. An oil sample demonstrates fluid occurrence, while flow capacity requires additional evidence.

Worked example. Two pressure points from different depths cannot define a reliable contact if one has poor stabilisation or uncertain depth.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review a fictional formation-evaluation evidence table and assign confidence levels.

Model answer guide. Reject low-quality points with reasons, retain alternative contacts, and specify confirmatory sampling or testing.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review a fictional formation-evaluation evidence table and assign confidence levels.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of formation evaluation and fluid evidence?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about formation evaluation and fluid evidence?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about formation evaluation and fluid evidence be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating formation evaluation and fluid evidence?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in formation evaluation and fluid evidence?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning formation evaluation and fluid evidence?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for formation evaluation and fluid evidence. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on formation evaluation and fluid evidence contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about formation evaluation and fluid evidence?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in formation evaluation and fluid evidence?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Prospect risking and volumetrics

Learning objectives

- Explain prospect risking and volumetrics, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Prospect risking and volumetrics
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Geoscience and Formation Evaluation

Teaching notes

Teaching notes

Core explanation. Geological chance of success describes the chance that a prospect meets defined geological success criteria. Commercial success includes further conditions. Separate charge, reservoir, seal and trap risks and explain any dependence before multiplying probabilities.

Decision logic. Risked volume is a decision aid rather than a physical volume that will be produced. Compare value of information with appraisal cost and decision consequences. Use scenario trees to show failure, subcommercial discovery and commercial outcomes.

Worked example. If independent charge and reservoir probabilities are 0.8 and 0.5 and all other factors are certain, joint chance is 0.4.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate joint chance, then explain why independence is a strong assumption.

Model answer guide. Forty percent only under the stated assumptions; shared geological evidence can create dependence.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Calculate joint chance, then explain why independence is a strong assumption.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of prospect risking and volumetrics?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about prospect risking and volumetrics?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about prospect risking and volumetrics be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating prospect risking and volumetrics?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in prospect risking and volumetrics?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning prospect risking and volumetrics?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for prospect risking and volumetrics. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on prospect risking and volumetrics contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about prospect risking and volumetrics?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in prospect risking and volumetrics?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Certificate in Energy Geoscience and Formation Evaluation: Communication and Escalation

Learning objectives

- Explain certificate in energy geoscience and formation evaluation: communication and escalation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Energy Geoscience and Formation Evaluation: Communication and Escalation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Geoscience and Formation Evaluation

Teaching notes

Teaching notes

Core explanation. Certificate in Energy Geoscience and Formation Evaluation: Communication and Escalation describes a practical part of Certificate in Energy Geoscience and Formation Evaluation. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in energy geoscience and formation evaluation: communication and escalation. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in energy geoscience and formation evaluation: communication and escalation while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in energy geoscience and formation evaluation: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in energy geoscience and formation evaluation: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in energy geoscience and formation evaluation: communication and escalation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in energy geoscience and formation evaluation: communication and escalation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in energy geoscience and formation evaluation: communication and escalation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in energy geoscience and formation evaluation: communication and escalation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in energy geoscience and formation evaluation: communication and escalation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in energy geoscience and formation evaluation: communication and escalation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in energy geoscience and formation evaluation: communication and escalation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in energy geoscience and formation evaluation: communication and escalation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in energy geoscience and formation evaluation: communication and escalation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in energy geoscience and formation evaluation: communication and escalation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Certificate in Energy Geoscience and Formation Evaluation: Knowledge Check

Learning objectives

- Explain certificate in energy geoscience and formation evaluation: knowledge check, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Energy Geoscience and Formation Evaluation: Knowledge Check
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Geoscience and Formation Evaluation

Teaching notes

Teaching notes

Core explanation. Certificate in Energy Geoscience and Formation Evaluation: Knowledge Check describes a practical part of Certificate in Energy Geoscience and Formation Evaluation. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in energy geoscience and formation evaluation: knowledge check. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in energy geoscience and formation evaluation: knowledge check while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in energy geoscience and formation evaluation: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in energy geoscience and formation evaluation: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in energy geoscience and formation evaluation: knowledge check?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in energy geoscience and formation evaluation: knowledge check?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in energy geoscience and formation evaluation: knowledge check be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in energy geoscience and formation evaluation: knowledge check?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in energy geoscience and formation evaluation: knowledge check?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in energy geoscience and formation evaluation: knowledge check?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in energy geoscience and formation evaluation: knowledge check. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in energy geoscience and formation evaluation: knowledge check contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in energy geoscience and formation evaluation: knowledge check?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in energy geoscience and formation evaluation: knowledge check?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Energy Geoscience and Formation Evaluation: Competence Review

Learning objectives

- Explain certificate in energy geoscience and formation evaluation: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Energy Geoscience and Formation Evaluation: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Geoscience and Formation Evaluation

Teaching notes

Teaching notes

Core explanation. Certificate in Energy Geoscience and Formation Evaluation: Competence Review describes a practical part of Certificate in Energy Geoscience and Formation Evaluation. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in energy geoscience and formation evaluation: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in energy geoscience and formation evaluation: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in energy geoscience and formation evaluation: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in energy geoscience and formation evaluation: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in energy geoscience and formation evaluation: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in energy geoscience and formation evaluation: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in energy geoscience and formation evaluation: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in energy geoscience and formation evaluation: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in energy geoscience and formation evaluation: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in energy geoscience and formation evaluation: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in energy geoscience and formation evaluation: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in energy geoscience and formation evaluation: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in energy geoscience and formation evaluation: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in energy geoscience and formation evaluation: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-021 | Certificate in Wells and Drilling Technology

Level: C | Duration: 12 weeks | Audience: Learners appropriate to the stated programme level

12 weeks C programme focused on Certificate in Wells and Drilling Technology, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Wells and Drilling Technology.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Well architecture and drilling systems

Learning objectives

- Explain well architecture and drilling systems, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Well architecture and drilling systems
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Wells and Drilling Technology

Teaching notes

Teaching notes

Core explanation. A well connects the reservoir to the surface through a designed sequence of hole sections, casing and barriers. Explain measured depth versus true vertical depth, wellhead functions and interfaces with rig, marine riser and subsea equipment.

Decision logic. Well design starts with reservoir objectives, pressures, temperature, hazards and data uncertainty. Casing depth and equipment ratings require engineering calculations and independent review. This course uses diagrams and educational calculations, never an executable drilling programme.

Worked example. A deviated well has greater measured depth than vertical depth; fluid hydrostatic head relates to vertical depth.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Label a fictional well schematic and list five missing design inputs.

Model answer guide. Include pore pressure, fracture limits, temperature, geology and service conditions; distinguish equipment identification from design approval.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Label a fictional well schematic and list five missing design inputs.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of well architecture and drilling systems?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about well architecture and drilling systems?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about well architecture and drilling systems be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating well architecture and drilling systems?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in well architecture and drilling systems?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning well architecture and drilling systems?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for well architecture and drilling systems. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on well architecture and drilling systems contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about well architecture and drilling systems?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in well architecture and drilling systems?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Drilling rigs and crew responsibilities

Learning objectives

- Explain drilling rigs and crew responsibilities, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Drilling rigs and crew responsibilities
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Wells and Drilling Technology

Teaching notes

Teaching notes

Core explanation. Describe roustabout, roughneck, driller, toolpusher and specialist service roles without suggesting job entitlement. Introduce rig floor, pipe handling, mud systems and lifting interfaces. Supervisory accountability does not remove each person's duty to report unsafe conditions.

Decision logic. Use a task-responsibility chart to identify who plans, authorises, executes and verifies work. Shift handovers must communicate well status, restrictions and outstanding actions. Entry-level workers should recognise boundaries and stop rather than improvise around unfamiliar equipment.

Worked example. A new crew member sees an unclear lifting signal. Work pauses until communication and responsibility are re-established.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Role-play a shift handover with one unresolved equipment restriction.

Model answer guide. A good handover identifies status, responsible person, restriction, next action and acknowledgement.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Role-play a shift handover with one unresolved equipment restriction.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of drilling rigs and crew responsibilities?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about drilling rigs and crew responsibilities?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about drilling rigs and crew responsibilities be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating drilling rigs and crew responsibilities?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in drilling rigs and crew responsibilities?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning drilling rigs and crew responsibilities?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for drilling rigs and crew responsibilities. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on drilling rigs and crew responsibilities contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about drilling rigs and crew responsibilities?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in drilling rigs and crew responsibilities?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Casing and cementing

Learning objectives

- Explain casing and cementing, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Casing and cementing
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Wells and Drilling Technology

Teaching notes

Teaching notes

Core explanation. Casing supports the borehole and isolates formations; cement contributes to zonal isolation and structural support. Explain shoe, annulus, centralisation and displacement using a cutaway diagram. Distinguish design intent from evidence that a barrier has actually been established.

Decision logic. Assess cement placement uncertainty, contamination, losses and verification data together. Pressure tests and logs answer different questions and must be interpreted within an approved programme. Do not provide generic acceptance pressures or operational instructions that override site procedures.

Worked example. A calculated cement volume matches the plan, but returns indicate possible losses. Volume pumped alone cannot confirm isolation.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review a fictional cementing quality dossier and identify acceptance evidence gaps.

Model answer guide. Require reconciled volumes, operational observations and appropriate verification reviewed by authorised engineers.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review a fictional cementing quality dossier and identify acceptance evidence gaps.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of casing and cementing?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about casing and cementing?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about casing and cementing be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating casing and cementing?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in casing and cementing?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning casing and cementing?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for casing and cementing. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on casing and cementing contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about casing and cementing?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in casing and cementing?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Drilling fluids and pressure windows

Learning objectives

- Explain drilling fluids and pressure windows, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Drilling fluids and pressure windows
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Wells and Drilling Technology

Teaching notes

Teaching notes

Core explanation. Drilling fluids transport cuttings, help control pressure, cool equipment and support the borehole. Static hydrostatic pressure depends on density and vertical depth. Circulation adds friction effects; temperature, losses and gas can change behaviour.

Decision logic. Explain the pore-pressure and fracture-pressure window conceptually. Raising density may improve one margin while increasing losses risk. All actual mud programmes and responses remain with competent well teams. Use clearly labelled classroom numbers and consistent SI units.

Worked example. A fluid density of 1100 kg/m3 over 1000 m gives roughly 10.79 MPa hydrostatic pressure using g equals 9.81 m/s2.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate pressure for 1200 kg/m3 and discuss the tradeoff.

Model answer guide. Approximately 11.77 MPa; increased pressure may narrow fracture margin, so higher density is not automatically safer.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Calculate pressure for 1200 kg/m3 and discuss the tradeoff.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of drilling fluids and pressure windows?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about drilling fluids and pressure windows?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about drilling fluids and pressure windows be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating drilling fluids and pressure windows?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in drilling fluids and pressure windows?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning drilling fluids and pressure windows?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for drilling fluids and pressure windows. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on drilling fluids and pressure windows contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about drilling fluids and pressure windows?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in drilling fluids and pressure windows?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Directional and deepwater drilling

Learning objectives

- Explain directional and deepwater drilling, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Directional and deepwater drilling
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Wells and Drilling Technology

Teaching notes

Teaching notes

Core explanation. Inclination, azimuth and trajectory define where the well travels. Directional tools support reservoir access while introducing torque, drag, survey and collision considerations. Deepwater adds long interfaces, marine exposure and limited intervention options.

Decision logic. Teach trajectory quality assurance through coordinate reference, survey uncertainty and target tolerances. Separate trajectory feasibility from safe execution. A plan should include independent checks and contingencies for geological or equipment changes rather than a single perfect line.

Worked example. Two planned wells appear separate on a map but their uncertainty envelopes overlap at depth.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Mark target and uncertainty envelopes and propose a review hold point.

Model answer guide. Check reference systems and uncertainty before approving proximity; refer collision analysis to competent well engineers.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Mark target and uncertainty envelopes and propose a review hold point.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of directional and deepwater drilling?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about directional and deepwater drilling?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about directional and deepwater drilling be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating directional and deepwater drilling?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in directional and deepwater drilling?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning directional and deepwater drilling?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for directional and deepwater drilling. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on directional and deepwater drilling contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about directional and deepwater drilling?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in directional and deepwater drilling?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Well control and barrier management

Learning objectives

- Explain well control and barrier management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Well control and barrier management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Wells and Drilling Technology

Teaching notes

Teaching notes

Core explanation. A barrier system prevents unintended fluid flow. Show primary and secondary barrier envelopes and the need for defined performance standards. Recognising indications, reporting promptly and following the authorised well-control programme are distinct from being certified to operate equipment.

Decision logic. Teach barrier status with evidence, not equipment names alone. An installed component may be unavailable, untested or outside its operating envelope. Barrier changes require controlled review. No live well-control drill or shut-in sequence is prescribed by this awareness content.

Worked example. A component appears on the drawing, but its required test record is missing. Treat its verified availability as unresolved.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Construct a barrier-status register from a fictional well diagram.

Model answer guide. Record function, verification, owner, limitation and escalation; do not mark an unverified barrier healthy.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Construct a barrier-status register from a fictional well diagram.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of well control and barrier management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about well control and barrier management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about well control and barrier management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating well control and barrier management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in well control and barrier management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning well control and barrier management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for well control and barrier management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on well control and barrier management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about well control and barrier management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in well control and barrier management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Completion and intervention

Learning objectives

- Explain completion and intervention, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Completion and intervention
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Wells and Drilling Technology

Teaching notes

Teaching notes

Core explanation. A completion enables controlled production or injection through tubing, packers, valves and sand-control or stimulation systems where appropriate. Intervention restores or changes well function. Explain the interface between reservoir objectives and well integrity.

Decision logic. Evaluate completion options against fluid properties, sand risk, expected rates, intervention access and lifecycle cost. A high initial rate is not sufficient if integrity or recovery suffers. Intervention plans need barrier review and competent authorisation.

Worked example. A reservoir prone to sand production may require a different completion from a competent sandstone even at the same target rate.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Compare two completion concepts using five criteria and list uncertainties.

Model answer guide. Include integrity, sand management, productivity, access and lifecycle value; justify the tradeoffs.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Compare two completion concepts using five criteria and list uncertainties.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of completion and intervention?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about completion and intervention?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about completion and intervention be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating completion and intervention?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in completion and intervention?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning completion and intervention?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for completion and intervention. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on completion and intervention contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about completion and intervention?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in completion and intervention?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Drilling economics and performance

Learning objectives

- Explain drilling economics and performance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Drilling economics and performance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Wells and Drilling Technology

Teaching notes

Teaching notes

Core explanation. Well cost includes rig time, services, materials, logistics and uncertainty. Distinguish productive time, planned non-drilling activity and non-productive time. A time saving has value only if safety, integrity and data objectives remain satisfied.

Decision logic. Benchmark like-for-like intervals and account for geology, water depth and well objectives. Use a time-depth curve to identify variance, then test causes before attributing blame. Avoid rewarding speed that suppresses necessary verification.

Worked example. At a fictional rig-related spread cost of USD 400,000 per day, two avoided days save USD 800,000 before other effects.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Analyse a three-day delay and propose an evidence-based improvement.

Model answer guide. Separate controllable causes, external constraints and prevention cost; preserve required verification activities.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Analyse a three-day delay and propose an evidence-based improvement.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of drilling economics and performance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about drilling economics and performance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about drilling economics and performance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating drilling economics and performance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in drilling economics and performance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning drilling economics and performance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for drilling economics and performance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on drilling economics and performance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about drilling economics and performance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in drilling economics and performance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Permit to work isolation and SIMOPS

Learning objectives

- Explain permit to work isolation and simops, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Permit to work isolation and SIMOPS
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Wells and Drilling Technology

Teaching notes

Teaching notes

Core explanation. A permit coordinates specified work within defined conditions and time. It complements risk assessment, isolation, competence and supervision. SIMOPS review considers interactions between tasks that may be safe individually but unsafe together.

Decision logic. Walk through planning, authorisation, briefing, verification, suspension and handback conceptually. A signature does not establish a safe condition. Changes in scope, personnel or environment require review under the site system. Never reuse a classroom permit as operational authorisation.

Worked example. Hot work and a nearby hydrocarbon transfer are proposed concurrently. Their interaction needs coordinated review.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review two fictional permits and identify interface conflicts and suspension triggers.

Model answer guide. Include shared hazards, isolation boundaries, authority, communication and revalidation after change.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review two fictional permits and identify interface conflicts and suspension triggers.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of permit to work isolation and simops?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about permit to work isolation and simops?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about permit to work isolation and simops be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating permit to work isolation and simops?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in permit to work isolation and simops?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning permit to work isolation and simops?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for permit to work isolation and simops. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on permit to work isolation and simops contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about permit to work isolation and simops?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in permit to work isolation and simops?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Wells and Drilling Technology: Competence Review

Learning objectives

- Explain certificate in wells and drilling technology: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Wells and Drilling Technology: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Wells and Drilling Technology

Teaching notes

Teaching notes

Core explanation. Certificate in Wells and Drilling Technology: Competence Review describes a practical part of Certificate in Wells and Drilling Technology. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in wells and drilling technology: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in wells and drilling technology: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in wells and drilling technology: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in wells and drilling technology: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in wells and drilling technology: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in wells and drilling technology: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in wells and drilling technology: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in wells and drilling technology: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in wells and drilling technology: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in wells and drilling technology: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in wells and drilling technology: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in wells and drilling technology: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in wells and drilling technology: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in wells and drilling technology: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-022 | Certificate in Reservoir and Production Technology

Level: C | Duration: 12 weeks | Audience: Learners appropriate to the stated programme level

12 weeks C programme focused on Certificate in Reservoir and Production Technology, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Reservoir and Production Technology.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Reservoir rock and fluid properties

Learning objectives

- Explain reservoir rock and fluid properties, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Reservoir rock and fluid properties
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Reservoir and Production Technology

Teaching notes

Teaching notes

Core explanation. Porosity measures pore volume; permeability describes flow capacity. Fluids vary in viscosity, density and phase behaviour with pressure and temperature. Explain why a porous rock may still flow poorly and why laboratory measurements need reservoir-condition interpretation.

Decision logic. Discuss effective permeability, wettability and relative permeability as multiphase-flow concepts. Scale matters: a small core sample may miss fractures or barriers. Integrate core, logs and dynamic evidence rather than assigning one uniform property to a whole field.

Worked example. Two rocks both have 20% porosity, but one has poorly connected pores and much lower permeability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Compare fictional core and fluid data and identify likely production constraints.

Model answer guide. Use permeability, viscosity and connectivity; do not infer productivity from porosity alone.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Compare fictional core and fluid data and identify likely production constraints.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of reservoir rock and fluid properties?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about reservoir rock and fluid properties?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about reservoir rock and fluid properties be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating reservoir rock and fluid properties?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in reservoir rock and fluid properties?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning reservoir rock and fluid properties?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for reservoir rock and fluid properties. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on reservoir rock and fluid properties contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about reservoir rock and fluid properties?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in reservoir rock and fluid properties?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Pressure and reservoir drive mechanisms

Learning objectives

- Explain pressure and reservoir drive mechanisms, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Pressure and reservoir drive mechanisms
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Reservoir and Production Technology

Teaching notes

Teaching notes

Core explanation. Reservoir energy may come from fluid expansion, solution gas, gas cap, aquifer support or combinations. Pressure behaviour, fluid ratios and production history help diagnose the mechanism. Explain depletion as a material and energy response, not simply an emptying tank.

Decision logic. Recovery strategy should match mechanism and uncertainty. Water or gas injection can support pressure but also changes sweep, facilities and environmental requirements. Compare hypotheses using pressure and production evidence before choosing intervention.

Worked example. Reservoir pressure falls rapidly while gas-oil ratio rises, suggesting solution-gas effects requiring further evaluation.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Interpret three fictional pressure and fluid-ratio trends.

Model answer guide. Offer more than one plausible mechanism where evidence is incomplete, and specify discriminating measurements.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Interpret three fictional pressure and fluid-ratio trends.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of pressure and reservoir drive mechanisms?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about pressure and reservoir drive mechanisms?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about pressure and reservoir drive mechanisms be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating pressure and reservoir drive mechanisms?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in pressure and reservoir drive mechanisms?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning pressure and reservoir drive mechanisms?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for pressure and reservoir drive mechanisms. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on pressure and reservoir drive mechanisms contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about pressure and reservoir drive mechanisms?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in pressure and reservoir drive mechanisms?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Material balance and decline analysis

Learning objectives

- Explain material balance and decline analysis, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Material balance and decline analysis
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Reservoir and Production Technology

Teaching notes

Teaching notes

Core explanation. Material balance reconciles withdrawals with fluid expansion and influx under stated assumptions. Decline analysis describes rate trends under defined operating conditions. Both require quality-controlled time series and consistent fluid volumes.

Decision logic. A changing choke, workover or facility constraint can mimic reservoir decline. Segment the history before fitting curves and explain boundary assumptions. Material balance can be misleading if influx or compartmentalisation is ignored. Do not present a fitted curve as independent proof of reserves.

Worked example. Monthly oil rates of 100, 90 and 81 units suggest 10% interval decline only if intervals and operating conditions are comparable.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Fit the next rate and list three reasons the extrapolation could fail.

Model answer guide. 72.9 units under unchanged exponential decline; facility changes, intervention or reservoir behaviour can invalidate it.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Fit the next rate and list three reasons the extrapolation could fail.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of material balance and decline analysis?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about material balance and decline analysis?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about material balance and decline analysis be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating material balance and decline analysis?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in material balance and decline analysis?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning material balance and decline analysis?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for material balance and decline analysis. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on material balance and decline analysis contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about material balance and decline analysis?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in material balance and decline analysis?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Well testing and pressure interpretation

Learning objectives

- Explain well testing and pressure interpretation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Well testing and pressure interpretation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Reservoir and Production Technology

Teaching notes

Teaching notes

Core explanation. A well test records flow and pressure response to infer reservoir and well behaviour. Explain drawdown, buildup, skin and boundary effects conceptually. Measurement resolution, rate history and test duration constrain interpretation.

Decision logic. Different models can fit limited data. Use derivative behaviour and independent geology to test models rather than declaring a unique answer. Short tests may not observe distant boundaries. Operational testing requires an approved programme and safety controls.

Worked example. A short buildup appears stable but has not investigated the reservoir boundary; connectivity remains uncertain.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review a fictional test summary and list claims supported and unsupported by it.

Model answer guide. Separate local mobility evidence from field-wide connectivity and long-term deliverability claims.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review a fictional test summary and list claims supported and unsupported by it.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of well testing and pressure interpretation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about well testing and pressure interpretation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about well testing and pressure interpretation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating well testing and pressure interpretation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in well testing and pressure interpretation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning well testing and pressure interpretation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for well testing and pressure interpretation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on well testing and pressure interpretation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about well testing and pressure interpretation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in well testing and pressure interpretation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Production forecasting

Learning objectives

- Explain production forecasting, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Production forecasting
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Reservoir and Production Technology

Teaching notes

Teaching notes

Core explanation. Forecasts combine reservoir behaviour, well availability, ramp-up, capacity constraints and downtime. Distinguish potential reservoir production from saleable output. State units, time basis and whether rates are instantaneous, daily averages or annual totals.

Decision logic. Build low, base and high cases with internally consistent constraints. Bottlenecks can shift as water production rises. Compare forecast to observed history when available and track revisions with reasons. Do not assign actual Namibian first-oil dates from classroom scenarios.

Worked example. A system with 100,000 barrels/day potential and 90% availability yields 90,000 barrels/day average before other constraints.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a one-year forecast with availability falling to 80% for three months.

Model answer guide. Calculate period-weighted output and explain facility versus reservoir constraints separately.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a one-year forecast with availability falling to 80% for three months.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of production forecasting?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about production forecasting?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about production forecasting be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating production forecasting?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in production forecasting?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning production forecasting?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for production forecasting. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on production forecasting contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about production forecasting?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in production forecasting?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Artificial lift selection

Learning objectives

- Explain artificial lift selection, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Artificial lift selection
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Reservoir and Production Technology

Teaching notes

Teaching notes

Core explanation. Artificial lift adds energy to improve flow when natural reservoir drive and pressure drop are insufficient. Introduce gas lift and electric submersible pumps, their interfaces and limitations. Offshore access and intervention costs influence selection.

Decision logic. Compare lift methods against depth, fluids, sand, gas fraction, power, reliability and operating envelope. A method effective onshore may be hard to service subsea. Selection needs nodal analysis and lifecycle evaluation by competent production engineers.

Worked example. A high-rate well with limited intervention access must balance pump performance against repair logistics and lost production.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Develop a comparison matrix for two lift concepts using a fictional fluid case.

Model answer guide. Include power or gas availability, reliability, intervention and flow assurance rather than ranking by initial rate alone.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Develop a comparison matrix for two lift concepts using a fictional fluid case.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of artificial lift selection?

- A. To support a safe, evidence-based decision within the defined operating context.
- B. Proceed using an unverified assumption and omit the record.
- C. Transfer the decision to an unqualified person.
- D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about artificial lift selection?

- A. Scope, applicable requirements, evidence, assumptions and decision authority.
- B. Proceed using an unverified assumption and omit the record.
- C. Transfer the decision to an unqualified person.
- D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about artificial lift selection be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating artificial lift selection?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in artificial lift selection?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning artificial lift selection?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for artificial lift selection. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on artificial lift selection contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about artificial lift selection?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in artificial lift selection?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Production optimisation

Learning objectives

- Explain production optimisation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Production optimisation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Reservoir and Production Technology

Teaching notes

Teaching notes

Core explanation. Production optimisation considers reservoir inflow, wellbore outflow, gathering network and facilities together. Nodal analysis examines pressure balance across the system. The best local setting may overload shared equipment or harm recovery.

Decision logic. Use constraints and marginal value to prioritise opportunities. Validate meter quality before changing settings. Changes require operating review and controlled implementation; the classroom does not authorise adjustments to live wells or control systems.

Worked example. Opening one fictional well increases its rate but exceeds separator capacity, reducing total stable production.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Identify the system bottleneck and compare two constrained operating cases.

Model answer guide. Optimise total safe value and honour facility limits, rather than maximising each well independently.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Identify the system bottleneck and compare two constrained operating cases.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of production optimisation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about production optimisation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about production optimisation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating production optimisation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in production optimisation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning production optimisation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for production optimisation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on production optimisation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about production optimisation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in production optimisation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Produced water and gas management

Learning objectives

- Explain produced water and gas management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Produced water and gas management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Reservoir and Production Technology

Teaching notes

Teaching notes

Core explanation. Produced water and associated gas affect processing capacity, corrosion, disposal and emissions. Explain separation, treatment, reinjection, export and permitted disposal as options with different technical and environmental implications.

Decision logic. Track total fluid rather than oil alone. Gas composition can change treatment and materials requirements. Disposal choices require permits, monitoring and assurance; no universal discharge limit is provided here. Gas flaring is not an automatic default business case.

Worked example. Oil stays at 20,000 barrels/day while water cut rises from 20% to 50%; total liquid increases from 25,000 to 40,000 barrels/day.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate water volumes and identify affected equipment.

Model answer guide. Water rises from 5,000 to 20,000 barrels/day; assess separation, pumping, treatment and disposal capacity.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Calculate water volumes and identify affected equipment.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of produced water and gas management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about produced water and gas management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about produced water and gas management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating produced water and gas management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in produced water and gas management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning produced water and gas management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for produced water and gas management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on produced water and gas management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about produced water and gas management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in produced water and gas management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Integrated reservoir management

Learning objectives

- Explain integrated reservoir management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Integrated reservoir management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Reservoir and Production Technology

Teaching notes

Teaching notes

Core explanation. Reservoir management links surveillance, models, wells, facilities and economics to an agreed objective. Define decision triggers and data owners. A model is useful when it helps choose an action and exposes uncertainty, not simply because it has many cells.

Decision logic. Use a closed learning cycle: predict, measure, compare, diagnose and revise. History matching can be non-unique, so retain plausible alternatives and test decisions against them. Integrate subsurface and operations teams when reviewing constraints and new evidence.

Worked example. Measured water breakthrough is earlier than predicted. Review connectivity and completion assumptions before merely adjusting a curve.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a surveillance plan with three measurements and associated decision triggers.

Model answer guide. Each measurement must connect to a management choice, owner and review frequency.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a surveillance plan with three measurements and associated decision triggers.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of integrated reservoir management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about integrated reservoir management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about integrated reservoir management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating integrated reservoir management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in integrated reservoir management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning integrated reservoir management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for integrated reservoir management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on integrated reservoir management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about integrated reservoir management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in integrated reservoir management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Reservoir and Production Technology: Competence Review

Learning objectives

- Explain certificate in reservoir and production technology: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Reservoir and Production Technology: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Reservoir and Production Technology

Teaching notes

Teaching notes

Core explanation. Certificate in Reservoir and Production Technology: Competence Review describes a practical part of Certificate in Reservoir and Production Technology. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in reservoir and production technology: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in reservoir and production technology: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in reservoir and production technology: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in reservoir and production technology: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in reservoir and production technology: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in reservoir and production technology: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in reservoir and production technology: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in reservoir and production technology: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in reservoir and production technology: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in reservoir and production technology: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in reservoir and production technology: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in reservoir and production technology: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in reservoir and production technology: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in reservoir and production technology: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-023 | Certificate in Subsea Systems, FPSO and Marine Operations

Level: C | Duration: 12 weeks | Audience: Learners appropriate to the stated programme level

12 weeks C programme focused on Certificate in Subsea Systems, FPSO and Marine Operations, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Subsea Systems, FPSO and Marine Operations.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Deepwater development concept selection

Learning objectives

- Explain deepwater development concept selection, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Deepwater development concept selection
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Subsea Systems, FPSO and Marine Operations

Teaching notes

Teaching notes

Core explanation. Compare subsea tieback, standalone floating production and shore-linked concepts against reservoir, metocean, water depth, distance and product requirements. A concept is an integrated system of wells, facilities, export and support infrastructure. Show the interfaces before scoring alternatives.

Decision logic. Apply mandatory constraints before weighted scoring. Document weighting, uncertainty and options that fail a hard requirement. Lowest capital cost may increase operating risk or reduce recovery. Revisit selection when appraisal or market evidence changes.

Worked example. Concept A costs less initially but cannot accommodate the high gas case; Concept B has expansion capacity.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a concept matrix with technical, commercial, environmental and local-capability criteria.

Model answer guide. Reject infeasible options before ranking and include lifecycle cost, flexibility and uncertainty.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a concept matrix with technical, commercial, environmental and local-capability criteria.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of deepwater development concept selection?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about deepwater development concept selection?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about deepwater development concept selection be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating deepwater development concept selection?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in deepwater development concept selection?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning deepwater development concept selection?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for deepwater development concept selection. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on deepwater development concept selection contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about deepwater development concept selection?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in deepwater development concept selection?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Subsea trees and wellheads

Learning objectives

- Explain subsea trees and wellheads, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Subsea trees and wellheads
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Subsea Systems, FPSO and Marine Operations

Teaching notes

Teaching notes

Core explanation. The wellhead supports well interfaces; the tree provides controlled flow paths and isolation functions. Distinguish production, annulus and intervention interfaces. Explain that equipment configuration depends on well design and operating requirements, not a universal diagram.

Decision logic. Selection considers pressure, temperature, fluid service, installation, control compatibility and intervention access. Track interface documents and qualification evidence. An equipment rating alone does not prove the installed system is suitable or verified.

Worked example. A replacement connector has adequate pressure rating but an incompatible mechanical interface.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review a fictional tree interface sheet and flag mismatches.

Model answer guide. Check mechanical, hydraulic, electrical, control and material compatibility; require approved verification.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review a fictional tree interface sheet and flag mismatches.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of subsea trees and wellheads?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about subsea trees and wellheads?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about subsea trees and wellheads be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating subsea trees and wellheads?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in subsea trees and wellheads?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning subsea trees and wellheads?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for subsea trees and wellheads. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on subsea trees and wellheads contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about subsea trees and wellheads?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in subsea trees and wellheads?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Manifolds flowlines and risers

Learning objectives

- Explain manifolds flowlines and risers, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Manifolds flowlines and risers
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Subsea Systems, FPSO and Marine Operations

Teaching notes

Teaching notes

Core explanation. Manifolds collect and distribute flows; flowlines transport seabed fluids; risers bridge the seabed and floating facility. Distinguish production, injection and service lines. Show mechanical, thermal and hydraulic interfaces in one field layout.

Decision logic. Assess pressure drop, thermal loss, fatigue, seabed interaction and installation constraints together. Flowline diameter is a system tradeoff, not simply a maximum-flow choice. Routing must consider environmental and operational constraints and future inspection access.

Worked example. A shorter route crosses difficult seabed terrain, while a longer route reduces installation and inspection difficulty.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Compare two routing options and record the evidence needed for selection.

Model answer guide. Use lifecycle integrity, hydraulics, constructability, environment and access; do not select by length alone.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Compare two routing options and record the evidence needed for selection.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of manifolds flowlines and risers?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about manifolds flowlines and risers?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about manifolds flowlines and risers be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating manifolds flowlines and risers?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in manifolds flowlines and risers?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning manifolds flowlines and risers?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for manifolds flowlines and risers. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on manifolds flowlines and risers contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about manifolds flowlines and risers?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in manifolds flowlines and risers?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Umbilicals and subsea control systems

Learning objectives

- Explain umbilicals and subsea control systems, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Umbilicals and subsea control systems
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Subsea Systems, FPSO and Marine Operations

Teaching notes

Teaching notes

Core explanation. Umbilicals transmit combinations of power, communications, hydraulic service and chemicals. Subsea controls command and monitor equipment. Use a signal-and-energy diagram to separate commands, feedback and physical actuation.

Decision logic. Control philosophy must address loss of power, communications and hydraulic supply, plus the intended safe response. Check compatibility and redundancy across surface and subsea equipment. A command acknowledgement does not necessarily prove final valve position.

Worked example. A control command is received, but independent position feedback disagrees. Investigate rather than assume successful actuation.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Trace one command path and identify three failure points and their indication.

Model answer guide. Include surface control, communication, power or hydraulic supply and feedback; distinguish received command from achieved state.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Trace one command path and identify three failure points and their indication.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of umbilicals and subsea control systems?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about umbilicals and subsea control systems?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about umbilicals and subsea control systems be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating umbilicals and subsea control systems?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in umbilicals and subsea control systems?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning umbilicals and subsea control systems?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for umbilicals and subsea control systems. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on umbilicals and subsea control systems contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about umbilicals and subsea control systems?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in umbilicals and subsea control systems?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Flow assurance

Learning objectives

- Explain flow assurance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Flow assurance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Subsea Systems, FPSO and Marine Operations

Teaching notes

Teaching notes

Core explanation. Flow assurance manages the ability to transport fluids through operating and transient conditions. Hydrates, wax, scale, corrosion and slugging can threaten performance. Explain the pressure-temperature-composition relationship qualitatively with a cooling pipeline sketch.

Decision logic. Assess startup, shutdown and restart as well as steady operation. Chemical treatment, insulation and operating strategies interact with facilities and environmental constraints. Classroom discussion does not prescribe inhibitor doses or live restart sequences.

Worked example. A pipeline flows normally when warm but cools during a long shutdown, changing restart risk.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Build a flow-assurance risk register for normal operation and shutdown.

Model answer guide. Include fluid data, thermal history, safeguards, monitoring and an authorised specialist review before restart.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Build a flow-assurance risk register for normal operation and shutdown.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of flow assurance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about flow assurance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about flow assurance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating flow assurance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in flow assurance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning flow assurance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for flow assurance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on flow assurance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about flow assurance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in flow assurance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: FPSO processing storage and offloading

Learning objectives

- Explain fpso processing storage and offloading, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of FPSO processing storage and offloading
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Subsea Systems, FPSO and Marine Operations

Teaching notes

Teaching notes

Core explanation. An FPSO receives production, separates fluids, treats streams, stores oil and transfers cargo to export vessels. Explain topsides, hull, marine systems and offloading interfaces. Storage capacity is different from processing capacity.

Decision logic. Link processing limits to reservoir fluid cases and marine availability. A delay in offloading can constrain production even if process equipment is healthy. Discuss integration between process safety, marine assurance, maintenance and cargo scheduling.

Worked example. A fictional FPSO processes 100,000 barrels/day and has 500,000 barrels of free storage, providing five days before storage fills at unchanged output.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate free-storage endurance and list mitigations requiring review.

Model answer guide. Five days under simplified assumptions; review offloading schedule, safe operating limits and controlled production planning.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Calculate free-storage endurance and list mitigations requiring review.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of fpso processing storage and offloading?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about fpso processing storage and offloading?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about fpso processing storage and offloading be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating fpso processing storage and offloading?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in fpso processing storage and offloading?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning fpso processing storage and offloading?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for fpso processing storage and offloading. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on fpso processing storage and offloading contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about fpso processing storage and offloading?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in fpso processing storage and offloading?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Marine operations and station keeping

Learning objectives

- Explain marine operations and station keeping, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Marine operations and station keeping
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Subsea Systems, FPSO and Marine Operations

Teaching notes

Teaching notes

Core explanation. Floating facilities and vessels maintain position through mooring, dynamic positioning or combinations appropriate to their design. Marine operations depend on weather, equipment condition and personnel competence. Explain station-keeping failure consequences for risers, lines and transfer operations.

Decision logic. Operating windows are vessel- and task-specific. Review weather forecasts, redundancy, assurance and abort criteria before work. Do not use classroom numbers as vessel limits. Interface plans should define who can pause the operation and how changes are communicated.

Worked example. An operation remains within yesterday's forecast but the latest forecast deteriorates during the planned work window.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a go-or-defer briefing identifying information needed, authority and contingency.

Model answer guide. Use current metocean data, approved limits, equipment status and safe disengagement planning.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a go-or-defer briefing identifying information needed, authority and contingency.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of marine operations and station keeping?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about marine operations and station keeping?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about marine operations and station keeping be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating marine operations and station keeping?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in marine operations and station keeping?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning marine operations and station keeping?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for marine operations and station keeping. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on marine operations and station keeping contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about marine operations and station keeping?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in marine operations and station keeping?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Inspection planning and technologies

Learning objectives

- Explain inspection planning and technologies, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Inspection planning and technologies
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Subsea Systems, FPSO and Marine Operations

Teaching notes

Teaching notes

Core explanation. Inspection seeks evidence of condition and degradation using methods fit for the expected damage. Coverage, access, resolution and operator competence affect confidence. Distinguish visual survey, thickness measurement and detailed examination.

Decision logic. Start with the question being answered, then select method and locations. A clean report from limited coverage does not prove the whole asset is defect-free. Record limitations, traceability, findings and required engineering disposition.

Worked example. An external visual survey cannot establish internal wall thickness beneath insulation.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Design an inspection brief with objective, coverage, method and reporting limits.

Model answer guide. Match technique to mechanism and state what cannot be concluded.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Design an inspection brief with objective, coverage, method and reporting limits.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of inspection planning and technologies?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about inspection planning and technologies?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about inspection planning and technologies be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating inspection planning and technologies?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in inspection planning and technologies?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning inspection planning and technologies?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for inspection planning and technologies. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on inspection planning and technologies contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about inspection planning and technologies?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in inspection planning and technologies?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Offshore supply base operations

Learning objectives

- Explain offshore supply base operations, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Offshore supply base operations
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Subsea Systems, FPSO and Marine Operations

Teaching notes

Teaching notes

Core explanation. A supply base connects procurement, warehousing, vessel movements and offshore demand. Explain receiving, inspection, storage, picking, packing, manifesting and dispatch. Errors at these interfaces can delay work or create safety risks offshore.

Decision logic. Plan around vessel capacity, weather, priorities and return logistics. Maintain segregation, traceability and quality holds. A fast dispatch is unsuccessful if cargo is wrong or unusable. Use synthetic manifests and no actual customs declarations.

Worked example. A spare is dispatched urgently but lacks the required preservation and identification.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Trace the spare from purchase request to offshore receipt and identify control points.

Model answer guide. Include identity, condition, documentation, packing, manifest and receiving confirmation.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Trace the spare from purchase request to offshore receipt and identify control points.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of offshore supply base operations?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about offshore supply base operations?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about offshore supply base operations be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating offshore supply base operations?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in offshore supply base operations?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning offshore supply base operations?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for offshore supply base operations. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on offshore supply base operations contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about offshore supply base operations?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in offshore supply base operations?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Subsea Systems, FPSO and Marine Operations: Competence Review

Learning objectives

- Explain certificate in subsea systems, fpso and marine operations: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Subsea Systems, FPSO and Marine Operations: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Subsea Systems, FPSO and Marine Operations

Teaching notes

Teaching notes

Core explanation. Certificate in Subsea Systems, FPSO and Marine Operations: Competence Review describes a practical part of Certificate in Subsea Systems, FPSO and Marine Operations. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in subsea systems, fpso and marine operations: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in subsea systems, fpso and marine operations: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in subsea systems, fpso and marine operations: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in subsea systems, fpso and marine operations: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in subsea systems, fpso and marine operations: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in subsea systems, fpso and marine operations: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in subsea systems, fpso and marine operations: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in subsea systems, fpso and marine operations: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in subsea systems, fpso and marine operations: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in subsea systems, fpso and marine operations: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in subsea systems, fpso and marine operations: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in subsea systems, fpso and marine operations: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in subsea systems, fpso and marine operations: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in subsea systems, fpso and marine operations: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-024 | Certificate in Offshore HSE and Process Safety

Level: C | Duration: 12 weeks | Audience: Learners appropriate to the stated programme level

12 weeks C programme focused on Certificate in Offshore HSE and Process Safety, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Offshore HSE and Process Safety.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Offshore hazards and safe working

Learning objectives

- Explain offshore hazards and safe working, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Offshore hazards and safe working
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore HSE and Process Safety

Teaching notes

Teaching notes

Core explanation. Hazards include moving machinery, hydrocarbons, pressure, electricity, weather, dropped objects and human exposure. Risk depends on likelihood and consequence in a defined task. Hazard recognition is the beginning of control, not permission to work.

Decision logic. Use elimination, substitution and engineered controls before relying only on procedures or PPE. Include manual handling and hazardous substances from the IMIST source themes. Train learners to stop and escalate unsafe conditions and remain within their authority.

Worked example. A walkway crosses a lifting zone. A helmet alone does not remove dropped-load exposure.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Identify five hazards in a fictional deck layout and propose controls in hierarchy order.

Model answer guide. Prefer segregation or changed routing over PPE alone; identify responsible verification.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Identify five hazards in a fictional deck layout and propose controls in hierarchy order.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of offshore hazards and safe working?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about offshore hazards and safe working?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about offshore hazards and safe working be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating offshore hazards and safe working?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in offshore hazards and safe working?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning offshore hazards and safe working?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for offshore hazards and safe working. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on offshore hazards and safe working contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about offshore hazards and safe working?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in offshore hazards and safe working?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Risk assessment and uncertainty management

Learning objectives

- Explain risk assessment and uncertainty management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Risk assessment and uncertainty management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore HSE and Process Safety

Teaching notes

Teaching notes

Core explanation. Define the activity and potential harm, identify hazards, evaluate existing controls, then decide further controls and ownership. A risk matrix supports prioritisation but does not prove a risk is tolerable. Include affected people and changing conditions.

Decision logic. Test whether controls are present and effective. Residual risk should be reassessed after control implementation, not merely after a promise. Escalate high-consequence uncertainty for competent review. Project risk also includes schedule, cost and opportunity effects.

Worked example. A permit lists a barrier that has not yet been installed. The claimed residual risk is premature.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Complete a risk register with cause, event, consequence, control, owner and verification.

Model answer guide. Keep hazard and consequence distinct and require evidence before taking control credit.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Complete a risk register with cause, event, consequence, control, owner and verification.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of risk assessment and uncertainty management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about risk assessment and uncertainty management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about risk assessment and uncertainty management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating risk assessment and uncertainty management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in risk assessment and uncertainty management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning risk assessment and uncertainty management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for risk assessment and uncertainty management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on risk assessment and uncertainty management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about risk assessment and uncertainty management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in risk assessment and uncertainty management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Permit to work isolation and SIMOPS

Learning objectives

- Explain permit to work isolation and simops, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Permit to work isolation and SIMOPS
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore HSE and Process Safety

Teaching notes

Teaching notes

Core explanation. A permit coordinates specified work within defined conditions and time. It complements risk assessment, isolation, competence and supervision. SIMOPS review considers interactions between tasks that may be safe individually but unsafe together.

Decision logic. Walk through planning, authorisation, briefing, verification, suspension and handback conceptually. A signature does not establish a safe condition. Changes in scope, personnel or environment require review under the site system. Never reuse a classroom permit as operational authorisation.

Worked example. Hot work and a nearby hydrocarbon transfer are proposed concurrently. Their interaction needs coordinated review.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review two fictional permits and identify interface conflicts and suspension triggers.

Model answer guide. Include shared hazards, isolation boundaries, authority, communication and revalidation after change.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review two fictional permits and identify interface conflicts and suspension triggers.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of permit to work isolation and simops?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about permit to work isolation and simops?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about permit to work isolation and simops be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating permit to work isolation and simops?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in permit to work isolation and simops?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning permit to work isolation and simops?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for permit to work isolation and simops. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on permit to work isolation and simops contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about permit to work isolation and simops?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in permit to work isolation and simops?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Process safety fundamentals

Learning objectives

- Explain process safety fundamentals, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Process safety fundamentals
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore HSE and Process Safety

Teaching notes

Teaching notes

Core explanation. Process safety prevents major loss-of-containment and energy-release events. Personal injury rates do not measure every major-accident risk. Explain hazard, initiating event, preventive barriers, mitigative barriers and consequences using a bowtie.

Decision logic. Assess barrier performance standards, degradation and independent assurance. HAZID, HAZOP and other reviews have different purposes and need competent facilitation. Do not call a classroom checklist a certified safety study. Track temporary changes and overdue critical actions.

Worked example. An asset reports no slips but has several overdue safety-critical tests; major-accident assurance remains weak.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Build a bowtie for a fictional separator loss of containment.

Model answer guide. Separate prevention and mitigation and assign barrier evidence, owner and degradation response.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Build a bowtie for a fictional separator loss of containment.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of process safety fundamentals?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about process safety fundamentals?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about process safety fundamentals be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating process safety fundamentals?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in process safety fundamentals?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning process safety fundamentals?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for process safety fundamentals. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on process safety fundamentals contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about process safety fundamentals?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in process safety fundamentals?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Fire prevention detection and firewatch

Learning objectives

- Explain fire prevention detection and firewatch, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Fire prevention detection and firewatch
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore HSE and Process Safety

Teaching notes

Teaching notes

Core explanation. Fire needs fuel, oxidant and ignition conditions. Prevention separates these; detection and response reduce consequences. A firewatch role monitors defined work and escalation requirements but does not replace isolation or gas-control measures.

Decision logic. Teach equipment recognition and alarm reporting with site-specific authority limits. Extinguisher selection and use require appropriate practical training and safe conditions. No learner should enter smoke or fight a fire beyond training and authority. Emergency arrangements take priority.

Worked example. A fictional firewatch observes a changed condition outside the permit boundary. Work is stopped and the supervisor informed.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Identify fire hazards in a mock hot-work briefing and state escalation triggers.

Model answer guide. Include combustible exposure, ignition sources, access, communications and changed conditions; no improvised firefighting.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Identify fire hazards in a mock hot-work briefing and state escalation triggers.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of fire prevention detection and firewatch?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about fire prevention detection and firewatch?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about fire prevention detection and firewatch be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating fire prevention detection and firewatch?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in fire prevention detection and firewatch?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning fire prevention detection and firewatch?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for fire prevention detection and firewatch. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on fire prevention detection and firewatch contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about fire prevention detection and firewatch?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in fire prevention detection and firewatch?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Emergency preparedness and command

Learning objectives

- Explain emergency preparedness and command, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Emergency preparedness and command
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore HSE and Process Safety

Teaching notes

Teaching notes

Core explanation. Emergency planning identifies credible scenarios, warning, command, communications, muster, evacuation, medical support and external interfaces. Responsibilities and fallback communications should be understood before an event. Awareness differs from emergency-team qualification.

Decision logic. Use tabletop exercises with timed injects, observer records and debrief actions. Test loss of communications or unavailable resources. Never simulate an actual distress call or activate real emergency equipment without authorised arrangements.

Worked example. A fictional offshore incident interrupts the primary communication link during a weather restriction.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Run a tabletop with incident controller, operations, logistics and communications roles.

Model answer guide. Prioritise people, establish command, verify information, use planned backup channels and document decisions.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Run a tabletop with incident controller, operations, logistics and communications roles.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of emergency preparedness and command?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about emergency preparedness and command?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about emergency preparedness and command be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating emergency preparedness and command?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in emergency preparedness and command?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning emergency preparedness and command?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for emergency preparedness and command. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on emergency preparedness and command contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about emergency preparedness and command?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in emergency preparedness and command?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Human factors and safe teamwork

Learning objectives

- Explain human factors and safe teamwork, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Human factors and safe teamwork
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore HSE and Process Safety

Teaching notes

Teaching notes

Core explanation. Human performance is influenced by fatigue, workload, design, communication and organisational pressure. Errors are not explained adequately by blaming an individual. Teach clear handover, challenge, confirmation and usable procedures.

Decision logic. Identify conditions that make error likely and improve the system. A worker should be able to raise concerns without retaliation. Discuss language and comprehension checks, especially where teams have different experience levels. Avoid presenting awareness as immunity from error.

Worked example. A night-shift handover omits an isolation limitation because both workers assume the other knows.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Redesign the handover and role-play a closed-loop confirmation.

Model answer guide. Include critical status, restrictions, pending actions and acknowledgement, supported by a usable record.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Redesign the handover and role-play a closed-loop confirmation.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of human factors and safe teamwork?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about human factors and safe teamwork?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about human factors and safe teamwork be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating human factors and safe teamwork?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in human factors and safe teamwork?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning human factors and safe teamwork?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for human factors and safe teamwork. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on human factors and safe teamwork contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about human factors and safe teamwork?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in human factors and safe teamwork?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Incident investigation and learning

Learning objectives

- Explain incident investigation and learning, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Incident investigation and learning
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore HSE and Process Safety

Teaching notes

Teaching notes

Core explanation. An investigation establishes what happened, why controls failed and how recurrence can be prevented. Preserve evidence, protect people and separate verified facts from assumptions. Near misses can reveal major weaknesses without actual harm.

Decision logic. Use a timeline and causal analysis to explore technical, human and organisational contributors. Avoid premature blame and unsupported conclusions. Actions should address causes, have accountable owners and be checked for effectiveness. Reporting follows applicable site and legal requirements.

Worked example. A dropped tool caused no injury, but exclusion-zone and securing controls were ineffective.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Analyse a fictional near miss and propose three causal actions.

Model answer guide. Include physical prevention, work-system improvements and verification, rather than retraining alone.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Analyse a fictional near miss and propose three causal actions.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of incident investigation and learning?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about incident investigation and learning?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about incident investigation and learning be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating incident investigation and learning?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in incident investigation and learning?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning incident investigation and learning?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for incident investigation and learning. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on incident investigation and learning contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about incident investigation and learning?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in incident investigation and learning?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Produced water hazardous substances and waste

Learning objectives

- Explain produced water hazardous substances and waste, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Produced water hazardous substances and waste
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore HSE and Process Safety

Teaching notes

Teaching notes

Core explanation. Waste management identifies streams, hazards, storage, treatment, transport and final disposition. Separate prevention, reuse, recovery and disposal. Safety data sheets support hazardous-substance understanding but do not replace task assessment.

Decision logic. Track quantities and chain of custody. Mixing streams can increase hazards or eliminate recovery options. Actual handling and discharge limits come from applicable approvals and competent procedures, not classroom defaults. Include spill prevention and contractor verification.

Worked example. A fictional warehouse labels used oil as general waste, obscuring treatment and disposal requirements.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a waste-stream register with controls and evidence.

Model answer guide. Include classification, segregation, containment, authorised route, quantities and receipts.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a waste-stream register with controls and evidence.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of produced water hazardous substances and waste?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about produced water hazardous substances and waste?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about produced water hazardous substances and waste be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating produced water hazardous substances and waste?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in produced water hazardous substances and waste?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning produced water hazardous substances and waste?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for produced water hazardous substances and waste. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on produced water hazardous substances and waste contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about produced water hazardous substances and waste?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in produced water hazardous substances and waste?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Safety and project leadership

Learning objectives

- Explain safety and project leadership, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Safety and project leadership
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore HSE and Process Safety

Teaching notes

Teaching notes

Core explanation. Leadership sets priorities through decisions, resources and response to bad news. Explain the difference between stated values and incentives that reward unsafe shortcuts. Leaders need clear delegation, listening and evidence-based challenge.

Decision logic. Use leading indicators tied to important barriers and delivery outcomes. Review overdue actions and organisational capacity, not just aggregate counts. Encourage escalation and resolve conflicting objectives openly. Authority remains accountable even when tasks are delegated.

Worked example. A manager requests schedule recovery while critical tests are incomplete. The team must resolve priorities explicitly.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Write a leadership response and a 30-day improvement plan.

Model answer guide. Require safe sequencing, resources, action owners and follow-up; do not reward concealment of incomplete work.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Write a leadership response and a 30-day improvement plan.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of safety and project leadership?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about safety and project leadership?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about safety and project leadership be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating safety and project leadership?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in safety and project leadership?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning safety and project leadership?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for safety and project leadership. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on safety and project leadership contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about safety and project leadership?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in safety and project leadership?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-025 | Certificate in Asset Integrity, Inspection and Maintenance

Level: C | Duration: 12 weeks | Audience: Learners appropriate to the stated programme level

12 weeks C programme focused on Certificate in Asset Integrity, Inspection and Maintenance, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Asset Integrity, Inspection and Maintenance.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Asset lifecycle management

Learning objectives

- Explain asset lifecycle management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Asset lifecycle management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Asset Integrity, Inspection and Maintenance

Teaching notes

Teaching notes

Core explanation. Asset decisions extend from design and procurement through operations, modification and retirement. Define required functions, service conditions and performance measures early. Integrity, availability and whole-life cost are related but different objectives.

Decision logic. Identify critical assets and establish information ownership across handover. Missing design, inspection or maintenance records can undermine later decisions. Lifecycle planning includes obsolescence, spares and decommissioning obligations rather than focusing only on purchase price.

Worked example. A low-cost pump has no maintainable offshore spare strategy and long replacement lead time.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Compare purchase cost with whole-life support for two fictional assets.

Model answer guide. Include downtime, maintenance, access, spares, documentation and retirement costs.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Compare purchase cost with whole-life support for two fictional assets.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of asset lifecycle management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about asset lifecycle management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about asset lifecycle management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating asset lifecycle management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in asset lifecycle management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning asset lifecycle management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for asset lifecycle management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on asset lifecycle management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about asset lifecycle management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in asset lifecycle management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Corrosion mechanisms and damage management

Learning objectives

- Explain corrosion mechanisms and damage management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Corrosion mechanisms and damage management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Asset Integrity, Inspection and Maintenance

Teaching notes

Teaching notes

Core explanation. Corrosion depends on materials, fluids, temperature, environment and operating history. Internal corrosion, external marine corrosion and localised attack can require different controls. Explain general thinning versus pitting and why average thickness may hide local damage.

Decision logic. Identify credible damage mechanisms before selecting inspection or mitigation. Coatings, inhibitors, material selection and cathodic protection have different applications. Competent engineers establish acceptance criteria; classroom measurements never approve equipment for continued service.

Worked example. A plate's average thickness appears acceptable but a local pit is much deeper.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review a fictional damage map and propose a specialist inspection scope.

Model answer guide. Address local severity, mechanism, inspection coverage and operating conditions rather than average thickness alone.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review a fictional damage map and propose a specialist inspection scope.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of corrosion mechanisms and damage management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about corrosion mechanisms and damage management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about corrosion mechanisms and damage management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating corrosion mechanisms and damage management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in corrosion mechanisms and damage management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning corrosion mechanisms and damage management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for corrosion mechanisms and damage management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on corrosion mechanisms and damage management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about corrosion mechanisms and damage management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in corrosion mechanisms and damage management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Inspection planning and technologies

Learning objectives

- Explain inspection planning and technologies, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Inspection planning and technologies
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Asset Integrity, Inspection and Maintenance

Teaching notes

Teaching notes

Core explanation. Inspection seeks evidence of condition and degradation using methods fit for the expected damage. Coverage, access, resolution and operator competence affect confidence. Distinguish visual survey, thickness measurement and detailed examination.

Decision logic. Start with the question being answered, then select method and locations. A clean report from limited coverage does not prove the whole asset is defect-free. Record limitations, traceability, findings and required engineering disposition.

Worked example. An external visual survey cannot establish internal wall thickness beneath insulation.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Design an inspection brief with objective, coverage, method and reporting limits.

Model answer guide. Match technique to mechanism and state what cannot be concluded.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Design an inspection brief with objective, coverage, method and reporting limits.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of inspection planning and technologies?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about inspection planning and technologies?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about inspection planning and technologies be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating inspection planning and technologies?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in inspection planning and technologies?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning inspection planning and technologies?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for inspection planning and technologies. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on inspection planning and technologies contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about inspection planning and technologies?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in inspection planning and technologies?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Nondestructive testing fundamentals

Learning objectives

- Explain nondestructive testing fundamentals, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Nondestructive testing fundamentals
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Asset Integrity, Inspection and Maintenance

Teaching notes

Teaching notes

Core explanation. NDT evaluates material or component characteristics without intentional destruction. Visual, penetrant, magnetic-particle and ultrasonic methods detect different features and have different material and access requirements. Testing is distinct from engineering acceptance.

Decision logic. Explain sensitivity, calibration, indication interpretation and false calls. Qualified procedures and personnel are necessary in actual work. This foundation course does not award an NDT personnel qualification or authorise independent acceptance of welds or components.

Worked example. A surface technique may reveal a surface-breaking indication but cannot rule out every internal defect.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Select suitable methods for three fictional defect scenarios and justify limitations.

Model answer guide. Match defect location, material and geometry to method; require approved procedures and qualified assessment.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Select suitable methods for three fictional defect scenarios and justify limitations.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of nondestructive testing fundamentals?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about nondestructive testing fundamentals?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about nondestructive testing fundamentals be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating nondestructive testing fundamentals?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in nondestructive testing fundamentals?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning nondestructive testing fundamentals?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for nondestructive testing fundamentals. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on nondestructive testing fundamentals contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about nondestructive testing fundamentals?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in nondestructive testing fundamentals?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Risk based inspection

Learning objectives

- Explain risk based inspection, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Risk based inspection
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Asset Integrity, Inspection and Maintenance

Teaching notes

Teaching notes

Core explanation. RBI combines likelihood and consequence of failure to prioritise inspection and other actions. It relies on credible damage mechanisms, operating data and consequence modelling. High risk does not automatically mean only more inspection is needed.

Decision logic. Document assumptions and uncertainty and validate findings with competent teams. Mitigation may require operational change, repair or replacement. The course illustrates RBI logic without reproducing a proprietary standard or approving inspection intervals.

Worked example. A low-likelihood failure has severe consequences and therefore remains a priority for assurance.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Rank three fictional assets and explain the influence of consequence and uncertainty.

Model answer guide. Credit transparent reasoning and alternative controls; reject ranking only by historical failure count.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Rank three fictional assets and explain the influence of consequence and uncertainty.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of risk based inspection?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about risk based inspection?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about risk based inspection be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating risk based inspection?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in risk based inspection?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning risk based inspection?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for risk based inspection. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on risk based inspection contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about risk based inspection?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in risk based inspection?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Reliability centred maintenance

Learning objectives

- Explain reliability centred maintenance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Reliability centred maintenance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Asset Integrity, Inspection and Maintenance

Teaching notes

Teaching notes

Core explanation. RCM begins with required functions, functional failures, failure modes and consequences. Maintenance tasks should be applicable and effective for the failure mode. Calendar replacement is one option, not a universal solution.

Decision logic. Compare condition-based tasks, scheduled restoration, failure-finding, redesign and justified run-to-failure. Hidden protective failures require particular attention. Explain why an attractive maintenance schedule may not address the dominant failure mechanism.

Worked example. A standby protective device rarely operates, so lack of breakdown reports does not demonstrate availability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a function-failure-task table for a fictional standby system.

Model answer guide. Include hidden failure, consequence, detection method, interval rationale and review responsibility.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a function-failure-task table for a fictional standby system.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of reliability centred maintenance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about reliability centred maintenance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about reliability centred maintenance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating reliability centred maintenance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in reliability centred maintenance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning reliability centred maintenance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for reliability centred maintenance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on reliability centred maintenance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about reliability centred maintenance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in reliability centred maintenance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Rotating and static equipment

Learning objectives

- Explain rotating and static equipment, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Rotating and static equipment
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Asset Integrity, Inspection and Maintenance

Teaching notes

Teaching notes

Core explanation. Pumps and compressors transfer energy to fluids; vessels and exchangers provide containment and process functions. Introduce bearings, seals, lubrication and performance envelopes. Equipment identification supports fault communication but does not qualify independent operation.

Decision logic. Use trends and operating context to diagnose problems. Vibration, temperature or pressure anomalies can have several causes. Maintenance requires isolation and competent review, with manufacturer procedures and approved acceptance limits.

Worked example. A pump's vibration rises after a duty change; compare operating conditions before concluding bearing failure.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a fault-evidence table and decide what further data is needed.

Model answer guide. Include duty point, trend, lubrication, alignment and maintenance history without prescribing live adjustments.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a fault-evidence table and decide what further data is needed.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of rotating and static equipment?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about rotating and static equipment?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about rotating and static equipment be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating rotating and static equipment?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in rotating and static equipment?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning rotating and static equipment?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for rotating and static equipment. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on rotating and static equipment contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about rotating and static equipment?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in rotating and static equipment?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Pipeline integrity

Learning objectives

- Explain pipeline integrity, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Pipeline integrity
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Asset Integrity, Inspection and Maintenance

Teaching notes

Teaching notes

Core explanation. Pipeline integrity links design, materials, operation, corrosion control, inspection, damage assessment and repair. Threats include corrosion, fatigue, third-party damage and geohazards. Explain how service and environment influence the threat register.

Decision logic. Use condition evidence and engineering assessment to prioritise action. A pressure rating does not address all degradation or installation damage. All operating limits, repair decisions and fitness-for-service conclusions require competent approval.

Worked example. A route section crosses unstable seabed even though corrosion readings are low.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a pipeline threat register including non-corrosion threats.

Model answer guide. Include route movement, spans, fatigue, material condition and monitoring limitations.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a pipeline threat register including non-corrosion threats.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of pipeline integrity?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about pipeline integrity?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about pipeline integrity be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating pipeline integrity?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in pipeline integrity?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning pipeline integrity?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for pipeline integrity. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on pipeline integrity contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about pipeline integrity?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in pipeline integrity?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Maintenance planning and CMMS

Learning objectives

- Explain maintenance planning and cmms, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Maintenance planning and CMMS
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Asset Integrity, Inspection and Maintenance

Teaching notes

Teaching notes

Core explanation. A computerised maintenance system links asset hierarchy, work orders, tasks, spares, labour and history. Data quality determines usefulness. Separate a work request, authorised work order, job execution and verified closure.

Decision logic. Prioritise work by consequence and criticality rather than age alone. A closed work order needs meaningful evidence, not just a status change. Backlogs should expose risk, deferrals and resource constraints. Protect safety-critical assurance from administrative closure.

Worked example. A work order says complete but contains no measurement, test result or technician record.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Improve a fictional maintenance record and prioritise a small backlog.

Model answer guide. Require asset identity, scope, condition, work evidence, unresolved defects and responsible acceptance.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Improve a fictional maintenance record and prioritise a small backlog.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of maintenance planning and cmms?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about maintenance planning and cmms?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about maintenance planning and cmms be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating maintenance planning and cmms?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in maintenance planning and cmms?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning maintenance planning and cmms?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for maintenance planning and cmms. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on maintenance planning and cmms contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about maintenance planning and cmms?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in maintenance planning and cmms?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Turnaround and shutdown management

Learning objectives

- Explain turnaround and shutdown management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Turnaround and shutdown management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Asset Integrity, Inspection and Maintenance

Teaching notes

Teaching notes

Core explanation. Turnarounds combine inspection, maintenance and modifications during planned downtime. Scope definition, isolation, resources, logistics and reinstatement are tightly linked. Explain freeze dates, emergent work and critical-path control.

Decision logic. Prioritise justified scope and control changes. Startup readiness needs verified reinstatement and testing; completion percentages do not prove a system is ready. Contractors and operations must share clear boundaries, handovers and emergency arrangements.

Worked example. An emergent defect requires repair that affects another contractor's access and the restart sequence.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Build a shutdown plan with a change decision and reinstatement checklist.

Model answer guide. Include isolation, dependencies, quality records, testing, handover and authorised startup acceptance.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Build a shutdown plan with a change decision and reinstatement checklist.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of turnaround and shutdown management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about turnaround and shutdown management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about turnaround and shutdown management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating turnaround and shutdown management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in turnaround and shutdown management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning turnaround and shutdown management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for turnaround and shutdown management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on turnaround and shutdown management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about turnaround and shutdown management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in turnaround and shutdown management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-026 | Certificate in Petroleum Economics, Finance and Commercial Management

Level: C | Duration: 12 weeks | Audience: Learners appropriate to the stated programme level

12 weeks C programme focused on Certificate in Petroleum Economics, Finance and Commercial Management, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Petroleum Economics, Finance and Commercial Management.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Petroleum project cash flow

Learning objectives

- Explain petroleum project cash flow, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Petroleum project cash flow
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Economics, Finance and Commercial Management

Teaching notes

Teaching notes

Core explanation. Construct cash flow by period from revenue, investment, operating costs, fiscal payments and closure costs. Define project versus equity perspective and real versus nominal money. Profit in an income statement is not the same as cash available.

Decision logic. Document timing and sign conventions. Working capital, depreciation and financing affect models differently. Keep an unlevered project model separate from financing unless explicitly integrating both. All classroom fiscal and price assumptions are illustrative.

Worked example. Year zero investment is 100; year one revenue is 80 and operating cost 20. Pre-fiscal cash flows are minus 100 and plus 60.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Build a three-period cash-flow table with closure cost in the final period.

Model answer guide. Show investment as negative, operations net cash as positive if applicable, and closure explicitly.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Build a three-period cash-flow table with closure cost in the final period.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of petroleum project cash flow?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about petroleum project cash flow?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about petroleum project cash flow be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating petroleum project cash flow?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in petroleum project cash flow?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning petroleum project cash flow?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for petroleum project cash flow. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on petroleum project cash flow contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about petroleum project cash flow?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in petroleum project cash flow?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: CAPEX OPEX and estimating

Learning objectives

- Explain capex opex and estimating, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of CAPEX OPEX and estimating
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Economics, Finance and Commercial Management

Teaching notes

Teaching notes

Core explanation. Capital estimates cover assets and development; operating estimates cover recurring delivery and support activities. Define scope, price basis, location, currency, schedule and exclusions before estimating. A number without its basis is difficult to review.

Decision logic. Use analogous, parametric and bottom-up methods according to data maturity. Separate base estimate, identified risk contingency and other reserves under the adopted governance. Avoid implying that contingency is spare money for scope additions.

Worked example. A fictional equipment package is 10 million and installation is estimated at 40% of equipment cost; subtotal is 14 million before other scope.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Write an estimate basis and identify five excluded cost items.

Model answer guide. Include logistics, commissioning, taxes, spares and owner costs where appropriate; state assumptions rather than silently adding them.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Write an estimate basis and identify five excluded cost items.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of capex opex and estimating?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about capex opex and estimating?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about capex opex and estimating be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating capex opex and estimating?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in capex opex and estimating?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning capex opex and estimating?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for capex opex and estimating. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on capex opex and estimating contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about capex opex and estimating?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in capex opex and estimating?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Production profiles and sales revenue

Learning objectives

- Explain production profiles and sales revenue, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Production profiles and sales revenue
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Economics, Finance and Commercial Management

Teaching notes

Teaching notes

Core explanation. Revenue depends on saleable volume, realised price, quality adjustments and contractual timing. Production at the reservoir is not identical to metered sales. Separate losses, own use, inventories and transfer points.

Decision logic. Keep price and production scenarios consistent with capacity and availability. Define whether prices are real or nominal and how exchange rates apply. Do not insert present market prices without a dated source; use synthetic classroom values.

Worked example. Fictional annual sales of 1 million barrels at USD 70/barrel produce USD 70 million gross revenue before adjustments.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Recalculate with 10% lower sales volume and a USD 3 quality discount.

Model answer guide. 0.9 million times 67 equals USD 60.3 million; explain both volume and price effects.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Recalculate with 10% lower sales volume and a USD 3 quality discount.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of production profiles and sales revenue?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about production profiles and sales revenue?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about production profiles and sales revenue be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating production profiles and sales revenue?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in production profiles and sales revenue?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning production profiles and sales revenue?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for production profiles and sales revenue. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on production profiles and sales revenue contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about production profiles and sales revenue?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in production profiles and sales revenue?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Royalties taxes and government take

Learning objectives

- Explain royalties taxes and government take, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Royalties taxes and government take
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Economics, Finance and Commercial Management

Teaching notes

Teaching notes

Core explanation. Fiscal systems allocate project value between investors and the state through mechanisms such as royalties, taxes, bonuses or contractual sharing. Compare mechanisms conceptually. Do not assume a production-sharing system applies to Namibia or import tax rates from another jurisdiction.

Decision logic. Model the actual legal and contractual hierarchy only after specialist verification. Government take depends on timing, cost recovery, deductions and price as well as headline rates. Keep illustrative fiscal cases visibly separate from current law.

Worked example. In a fictional classroom system, 5% royalty on USD 100 revenue is USD 5. This assumption is not a statement of Namibian law.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Compare a gross-revenue royalty with a profit-based levy using two cost scenarios.

Model answer guide. Royalty remains linked to gross revenue while profit-based payments change with allowed costs; note legal definitions matter.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Compare a gross-revenue royalty with a profit-based levy using two cost scenarios.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of royalties taxes and government take?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about royalties taxes and government take?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about royalties taxes and government take be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating royalties taxes and government take?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in royalties taxes and government take?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning royalties taxes and government take?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for royalties taxes and government take. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on royalties taxes and government take contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about royalties taxes and government take?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in royalties taxes and government take?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: NPV IRR and payback

Learning objectives

- Explain npv irr and payback, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of NPV IRR and payback
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Economics, Finance and Commercial Management

Teaching notes

Teaching notes

Core explanation. Net present value discounts dated cash flows at a stated rate. Internal rate of return is a rate making NPV zero and may be ambiguous for unusual cash-flow patterns. Payback measures recovery timing and ignores some value effects.

Decision logic. Compare projects using consistent perspective, currency and risk assumptions. NPV scale and capital constraints matter; ranking by IRR alone can mislead. Real cash flows require a compatible real discount rate and nominal flows a compatible nominal rate.

Worked example. Minus 100 now and plus 121 after two years has zero NPV at 10% because 121 divided by 1.1 squared equals 100.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate NPV at 5% and explain why the result changes.

Model answer guide. NPV is about 9.75; a lower discount rate increases the present value of the future receipt.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Calculate NPV at 5% and explain why the result changes.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of npv irr and payback?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about npv irr and payback?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about npv irr and payback be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating npv irr and payback?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in npv irr and payback?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning npv irr and payback?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for npv irr and payback. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on npv irr and payback contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about npv irr and payback?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in npv irr and payback?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Breakeven price analysis

Learning objectives

- Explain breakeven price analysis, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Breakeven price analysis
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Economics, Finance and Commercial Management

Teaching notes

Teaching notes

Core explanation. Breakeven price is the price satisfying a defined value condition, such as NPV zero at a chosen discount rate. It depends on production, cost, timing and fiscal assumptions. State whether the measure is project, operating or equity breakeven.

Decision logic. Use a controlled price iteration with a checked model. Include closure and relevant fiscal effects. A single breakeven number hides uncertainty and cannot substitute for a full investment assessment. Compare delay and cost escalation cases.

Worked example. With no discounting or fiscal effects, total cost 60 million divided by sales 1 million barrels gives USD 60/barrel breakeven.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Repeat for 0.8 million barrels and explain the sensitivity.

Model answer guide. USD 75/barrel under the simplified assumptions; lower volume spreads cost across fewer barrels.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Repeat for 0.8 million barrels and explain the sensitivity.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of breakeven price analysis?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about breakeven price analysis?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about breakeven price analysis be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating breakeven price analysis?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in breakeven price analysis?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning breakeven price analysis?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for breakeven price analysis. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on breakeven price analysis contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about breakeven price analysis?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in breakeven price analysis?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Sensitivity and scenario analysis

Learning objectives

- Explain sensitivity and scenario analysis, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Sensitivity and scenario analysis
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Economics, Finance and Commercial Management

Teaching notes

Teaching notes

Core explanation. Sensitivity changes one input to understand model response; scenarios change coherent sets of assumptions. A tornado chart ranks tested effects, not the probability of events. Distinguish uncertainty ranges from forecasts and assigned probabilities.

Decision logic. Check dependencies: schedule delay may increase cost and defer revenue together. A correlated downside should not be represented as independent optimistic inputs. Identify decision-changing variables and the evidence that could narrow them.

Worked example. Price down 20% and CAPEX up 20% are separate sensitivities; combined delay, inflation and low price is a downside scenario.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a sensitivity table and one coherent downside scenario.

Model answer guide. Preserve the base case, document changed inputs, and explain causal links in the combined case.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a sensitivity table and one coherent downside scenario.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of sensitivity and scenario analysis?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about sensitivity and scenario analysis?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about sensitivity and scenario analysis be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating sensitivity and scenario analysis?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in sensitivity and scenario analysis?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning sensitivity and scenario analysis?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for sensitivity and scenario analysis. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on sensitivity and scenario analysis contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about sensitivity and scenario analysis?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in sensitivity and scenario analysis?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Risked value and decision trees

Learning objectives

- Explain risked value and decision trees, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Risked value and decision trees
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Economics, Finance and Commercial Management

Teaching notes

Teaching notes

Core explanation. Expected monetary value weights defined outcomes by probabilities that sum to one. It supports comparisons but does not capture every strategic, distributional or catastrophic consequence. Teach chance nodes separately from decision nodes.

Decision logic. Value of information depends on whether new evidence can improve a decision. An expensive study has little decision value if the same choice follows every possible result. Explain probability calibration and dependencies before presenting a precise number.

Worked example. Success gives plus 200 with probability 0.3 and failure minus 50 with probability 0.7; EMV is 25 in the same money units.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Draw the tree and compare with a certain value of 20, noting risk preferences.

Model answer guide. EMV favours 25 versus 20, but downside exposure and constraints may change the choice.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Draw the tree and compare with a certain value of 20, noting risk preferences.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of risked value and decision trees?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about risked value and decision trees?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about risked value and decision trees be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating risked value and decision trees?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in risked value and decision trees?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning risked value and decision trees?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for risked value and decision trees. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on risked value and decision trees contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about risked value and decision trees?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in risked value and decision trees?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Project finance and funding structure

Learning objectives

- Explain project finance and funding structure, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Project finance and funding structure
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Economics, Finance and Commercial Management

Teaching notes

Teaching notes

Core explanation. Financing links investors, lenders, project cash flows and contractual risk allocation. Explain equity, debt, debt service, covenants and security conceptually. Financing availability depends on credible technical, commercial and environmental evidence.

Decision logic. Distinguish project economics from shareholder returns and loan serviceability. Debt can amplify returns and risk. Check downside cash available for debt service rather than assuming forecast revenue is free cash. No financing commitment is implied.

Worked example. Cash available for debt service of 120 and scheduled debt service of 100 gives a coverage ratio of 1.2.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Stress the ratio when available cash falls by 25% and discuss consequences.

Model answer guide. Coverage falls to 0.9; the project may not meet scheduled service without remedies under its actual agreements.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Stress the ratio when available cash falls by 25% and discuss consequences.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of project finance and funding structure?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about project finance and funding structure?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about project finance and funding structure be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating project finance and funding structure?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in project finance and funding structure?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning project finance and funding structure?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for project finance and funding structure. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on project finance and funding structure contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about project finance and funding structure?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in project finance and funding structure?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Petroleum Economics, Finance and Commercial Management: Competence Review

Learning objectives

- Explain certificate in petroleum economics, finance and commercial management: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Petroleum Economics, Finance and Commercial Management: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Economics, Finance and Commercial Management

Teaching notes

Teaching notes

Core explanation. Certificate in Petroleum Economics, Finance and Commercial Management: Competence Review describes a practical part of Certificate in Petroleum Economics, Finance and Commercial Management. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in petroleum economics, finance and commercial management: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in petroleum economics, finance and commercial management: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in petroleum economics, finance and commercial management: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in petroleum economics, finance and commercial management: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in petroleum economics, finance and commercial management: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in petroleum economics, finance and commercial management: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in petroleum economics, finance and commercial management: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in petroleum economics, finance and commercial management: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in petroleum economics, finance and commercial management: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in petroleum economics, finance and commercial management: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in petroleum economics, finance and commercial management: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in petroleum economics, finance and commercial management: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in petroleum economics, finance and commercial management: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in petroleum economics, finance and commercial management: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-027 | Certificate in Petroleum Law, Contracts and Local Content

Level: C | Duration: 12 weeks | Audience: Learners appropriate to the stated programme level

12 weeks C programme focused on Certificate in Petroleum Law, Contracts and Local Content, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Petroleum Law, Contracts and Local Content.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Petroleum legislative architecture

Learning objectives

- Explain petroleum legislative architecture, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Petroleum legislative architecture
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Law, Contracts and Local Content

Teaching notes

Teaching notes

Core explanation. Distinguish legislation, regulations, licence conditions, contracts and internal procedures. Public-law obligations and private agreements serve different functions. A commercial agreement cannot be assumed to waive a statutory requirement. Identify which authority and jurisdiction govern each issue.

Decision logic. Teach a verification method rather than unverified current legal rules: locate the official instrument, record amendment and commencement status, confirm applicability, and obtain qualified review. Classroom comparisons of concessions and PSAs are not statements of Namibia's adopted system.

Worked example. A contract refers to an old environmental instrument; the legal register must check current requirements before relying on it.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a legal-register template for exploration, development and operations.

Model answer guide. Include instrument, version, duty, applicability, owner, evidence and next review date.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a legal-register template for exploration, development and operations.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of petroleum legislative architecture?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about petroleum legislative architecture?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about petroleum legislative architecture be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating petroleum legislative architecture?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in petroleum legislative architecture?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning petroleum legislative architecture?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for petroleum legislative architecture. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on petroleum legislative architecture contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about petroleum legislative architecture?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in petroleum legislative architecture?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Licensing and acreage management

Learning objectives

- Explain licensing and acreage management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Licensing and acreage management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Law, Contracts and Local Content

Teaching notes

Teaching notes

Core explanation. Licences define rights and obligations within specified areas and periods. Work commitments, reporting, transfers and relinquishment may be governed by the applicable framework. Explain the difference between holding acreage and receiving all approvals to develop or operate.

Decision logic. Assess technical capability, beneficial ownership, financial capacity and compliance evidence within lawful processes. Keep commercial attractiveness separate from eligibility. Do not invent bid-round dates, licence terms or regulator powers for Namibia.

Worked example. A fictional explorer holds an exploration right but has not secured approval for a later development activity.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Build an approval dependency map and identify verification questions.

Model answer guide. Separate rights, environmental approvals, development decisions and operational consents; verify each duty.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Build an approval dependency map and identify verification questions.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of licensing and acreage management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about licensing and acreage management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about licensing and acreage management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating licensing and acreage management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in licensing and acreage management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning licensing and acreage management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for licensing and acreage management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on licensing and acreage management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about licensing and acreage management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in licensing and acreage management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Production sharing and service contracts

Learning objectives

- Explain production sharing and service contracts, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Production sharing and service contracts
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Law, Contracts and Local Content

Teaching notes

Teaching notes

Core explanation. A production-sharing arrangement typically allocates production through contract mechanisms, while service contracts compensate specified services. Concessions use a different rights and fiscal structure. These are comparative models, not interchangeable labels or claims about Namibia.

Decision logic. Explain cost eligibility, recovery limits, sharing and audit conceptually. Contract economics depends on detailed definitions, valuation and timing. Have learners compare two explicitly fictional structures without implying their terms apply to an actual licence.

Worked example. In a fictional PSA, 100 units remain after royalty; eligible recovery of 40 leaves 60 for contractual sharing.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate the split at a stated fictional 50:50 profit share.

Model answer guide. Each party receives 30 profit units; cost recovery and royalty are separate flows under this simplified example.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Calculate the split at a stated fictional 50:50 profit share.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of production sharing and service contracts?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about production sharing and service contracts?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about production sharing and service contracts be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating production sharing and service contracts?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in production sharing and service contracts?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning production sharing and service contracts?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for production sharing and service contracts. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on production sharing and service contracts contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about production sharing and service contracts?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in production sharing and service contracts?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Joint operating agreements

Learning objectives

- Explain joint operating agreements, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Joint operating agreements
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Law, Contracts and Local Content

Teaching notes

Teaching notes

Core explanation. A joint operating agreement allocates responsibilities among venture participants. Explain operator, non-operator, voting, work programmes, budgets, cash calls and joint account oversight. A JOA does not necessarily govern the state's licensing relationship.

Decision logic. Review how authority, reserved matters and conflicts are handled. Non-operators need information and assurance rather than assuming the operator absorbs every risk. Examine default, transfer and decommissioning provisions with legal review in actual transactions.

Worked example. A proposed budget change exceeds an operator's delegated authority in a fictional venture.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Identify the required decision route from a simplified authority matrix.

Model answer guide. Refer to the agreed voting and delegation provisions, record conflicts and retain the decision trail.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Identify the required decision route from a simplified authority matrix.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of joint operating agreements?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about joint operating agreements?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about joint operating agreements be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating joint operating agreements?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in joint operating agreements?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning joint operating agreements?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for joint operating agreements. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on joint operating agreements contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about joint operating agreements?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in joint operating agreements?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Royalties taxes and government take

Learning objectives

- Explain royalties taxes and government take, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Royalties taxes and government take
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Law, Contracts and Local Content

Teaching notes

Teaching notes

Core explanation. Fiscal systems allocate project value between investors and the state through mechanisms such as royalties, taxes, bonuses or contractual sharing. Compare mechanisms conceptually. Do not assume a production-sharing system applies to Namibia or import tax rates from another jurisdiction.

Decision logic. Model the actual legal and contractual hierarchy only after specialist verification. Government take depends on timing, cost recovery, deductions and price as well as headline rates. Keep illustrative fiscal cases visibly separate from current law.

Worked example. In a fictional classroom system, 5% royalty on USD 100 revenue is USD 5. This assumption is not a statement of Namibian law.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Compare a gross-revenue royalty with a profit-based levy using two cost scenarios.

Model answer guide. Royalty remains linked to gross revenue while profit-based payments change with allowed costs; note legal definitions matter.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Compare a gross-revenue royalty with a profit-based levy using two cost scenarios.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of royalties taxes and government take?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about royalties taxes and government take?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about royalties taxes and government take be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating royalties taxes and government take?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in royalties taxes and government take?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning royalties taxes and government take?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for royalties taxes and government take. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on royalties taxes and government take contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about royalties taxes and government take?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in royalties taxes and government take?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Environmental legal register and compliance

Learning objectives

- Explain environmental legal register and compliance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Environmental legal register and compliance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Law, Contracts and Local Content

Teaching notes

Teaching notes

Core explanation. Environmental duties can arise across assessment, permits, operating conditions, waste, monitoring and closure. Identify the activity, receptor and obligation before choosing evidence. A permit application is different from an issued approval.

Decision logic. Build a current obligations register verified against official instruments and site-specific conditions. Do not import foreign discharge limits as local law. Compliance monitoring should record accountable owners, exceedances, corrective action and reporting requirements.

Worked example. A project has an assessment report but no verified record of the required approval decision.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review a fictional compliance register and classify missing evidence.

Model answer guide. Flag unverified approvals and conditions; do not mark compliant merely because a study exists.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review a fictional compliance register and classify missing evidence.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of environmental legal register and compliance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about environmental legal register and compliance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about environmental legal register and compliance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating environmental legal register and compliance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in environmental legal register and compliance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning environmental legal register and compliance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for environmental legal register and compliance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on environmental legal register and compliance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about environmental legal register and compliance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in environmental legal register and compliance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Maritime and offshore legal interfaces

Learning objectives

- Explain maritime and offshore legal interfaces, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Maritime and offshore legal interfaces
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Law, Contracts and Local Content

Teaching notes

Teaching notes

Core explanation. Offshore activities can involve coastal-state, flag-state, port-state, class and contractual requirements. These are overlapping functions, not synonyms. Explain vessel status, marine pollution prevention and personnel competence as separate assurance areas.

Decision logic. Identify jurisdiction and task before applying a rule. A vessel certificate does not by itself approve every cargo transfer or offshore activity. Obtain current maritime and legal advice for actual operations; classroom guidance is not a statutory checklist.

Worked example. A vessel is classed but its planned task requires additional operational and port checks.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Map responsible parties and verification documents for a fictional supply voyage.

Model answer guide. Distinguish class, flag, port, coastal-state and charter requirements without asserting universal document lists.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Map responsible parties and verification documents for a fictional supply voyage.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of maritime and offshore legal interfaces?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about maritime and offshore legal interfaces?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about maritime and offshore legal interfaces be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating maritime and offshore legal interfaces?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in maritime and offshore legal interfaces?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning maritime and offshore legal interfaces?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for maritime and offshore legal interfaces. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on maritime and offshore legal interfaces contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about maritime and offshore legal interfaces?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in maritime and offshore legal interfaces?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Local content and national value

Learning objectives

- Explain local content and national value, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Local content and national value
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Law, Contracts and Local Content

Teaching notes

Teaching notes

Core explanation. Local content can include employment, skills, supplier participation and durable industrial capability. Distinguish domestic ownership, local expenditure and actual value retained locally. A purchase from a locally registered importer may contain little domestic production.

Decision logic. Measure outcomes with a defined boundary, baseline and evidence. Avoid assuming a proposed policy target is current law. Supplier development must protect quality and safety while building realistic capacity and fair access.

Worked example. A fictional USD 1 million local invoice contains USD 850,000 imported equipment and USD 150,000 local services.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate the local-service share and propose more meaningful indicators.

Model answer guide. Fifteen percent in this simplified boundary; employment, skills and retained value need separate evidence.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Calculate the local-service share and propose more meaningful indicators.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of local content and national value?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about local content and national value?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about local content and national value be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating local content and national value?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in local content and national value?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning local content and national value?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for local content and national value. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on local content and national value contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about local content and national value?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in local content and national value?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Dispute prevention and resolution

Learning objectives

- Explain dispute prevention and resolution, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Dispute prevention and resolution
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Law, Contracts and Local Content

Teaching notes

Teaching notes

Core explanation. Disputes often begin with ambiguity, undocumented change or inconsistent expectations. Teach contemporaneous records, issue escalation and contractual notice awareness. Separate technical disagreement from entitlement and relationship management.

Decision logic. Map negotiation, mediation, expert determination, arbitration or litigation only as options governed by actual agreements and law. Protect privileged or sensitive information and obtain legal advice where needed. Never invent notice periods or enforceability claims.

Worked example. A contractor requests extra payment for changed access conditions but the instructions and impact records are incomplete.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Assemble an issue chronology and identify evidence gaps.

Model answer guide. Separate established facts, disputed facts, contract questions and commercial options.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Assemble an issue chronology and identify evidence gaps.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of dispute prevention and resolution?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about dispute prevention and resolution?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about dispute prevention and resolution be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating dispute prevention and resolution?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in dispute prevention and resolution?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning dispute prevention and resolution?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for dispute prevention and resolution. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on dispute prevention and resolution contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about dispute prevention and resolution?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in dispute prevention and resolution?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Contract negotiation simulation

Learning objectives

- Explain contract negotiation simulation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Contract negotiation simulation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Law, Contracts and Local Content

Teaching notes

Teaching notes

Core explanation. Negotiation preparation identifies objectives, alternatives, authority and acceptable tradeoffs. Separate positions from underlying interests. Technical and fiscal terms interact with schedule, investment and risk; avoid negotiating a headline number in isolation.

Decision logic. Use a mandate sheet and issue log. Teams cannot commit outside delegated authority. Explore package trades, test downside consequences and record unresolved points before drafting. This role-play creates no actual offer, agreement or legal advice.

Worked example. The fictional state team values training commitments while an investor values schedule certainty; both need measurable and feasible terms.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Run a three-round negotiation and submit an unsigned term sheet plus risk commentary.

Model answer guide. Credit quantified commitments, authority checks, alternatives, clear conditions and documented unresolved issues.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Run a three-round negotiation and submit an unsigned term sheet plus risk commentary.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of contract negotiation simulation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about contract negotiation simulation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about contract negotiation simulation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating contract negotiation simulation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in contract negotiation simulation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning contract negotiation simulation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for contract negotiation simulation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on contract negotiation simulation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about contract negotiation simulation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in contract negotiation simulation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-028 | Certificate in Offshore Logistics and Supply-Chain Management

Level: C | Duration: 12 weeks | Audience: Learners appropriate to the stated programme level

12 weeks C programme focused on Certificate in Offshore Logistics and Supply-Chain Management, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Offshore Logistics and Supply-Chain Management.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Offshore supply base operations

Learning objectives

- Explain offshore supply base operations, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Offshore supply base operations
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Logistics and Supply-Chain Management

Teaching notes

Teaching notes

Core explanation. A supply base connects procurement, warehousing, vessel movements and offshore demand. Explain receiving, inspection, storage, picking, packing, manifesting and dispatch. Errors at these interfaces can delay work or create safety risks offshore.

Decision logic. Plan around vessel capacity, weather, priorities and return logistics. Maintain segregation, traceability and quality holds. A fast dispatch is unsuccessful if cargo is wrong or unusable. Use synthetic manifests and no actual customs declarations.

Worked example. A spare is dispatched urgently but lacks the required preservation and identification.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Trace the spare from purchase request to offshore receipt and identify control points.

Model answer guide. Include identity, condition, documentation, packing, manifest and receiving confirmation.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Trace the spare from purchase request to offshore receipt and identify control points.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of offshore supply base operations?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about offshore supply base operations?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about offshore supply base operations be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating offshore supply base operations?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in offshore supply base operations?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning offshore supply base operations?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for offshore supply base operations. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on offshore supply base operations contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about offshore supply base operations?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in offshore supply base operations?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Marine aviation and offshore logistics

Learning objectives

- Explain marine aviation and offshore logistics, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Marine aviation and offshore logistics
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Logistics and Supply-Chain Management

Teaching notes

Teaching notes

Core explanation. Marine and aviation logistics move people and materials through different capacity, weather and regulatory constraints. Explain planning, manifests, interfaces and contingency arrangements. Passenger and cargo operations require appropriate specialist authorisation.

Decision logic. Evaluate reliability and total service needs, not only transport price. Emergency arrangements, dangerous goods and communications affect planning. Do not infer STCW, aviation or offshore survival certification from this course. Real limits and booking approvals remain with authorised operators.

Worked example. A fictional weather delay blocks a planned crew change and critical spare delivery.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Develop a contingency plan that protects personnel welfare and operating limits.

Model answer guide. Include accommodation, revised schedules, priority cargo, communications and approved alternatives.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Develop a contingency plan that protects personnel welfare and operating limits.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of marine aviation and offshore logistics?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about marine aviation and offshore logistics?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about marine aviation and offshore logistics be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating marine aviation and offshore logistics?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in marine aviation and offshore logistics?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning marine aviation and offshore logistics?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for marine aviation and offshore logistics. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on marine aviation and offshore logistics contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about marine aviation and offshore logistics?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in marine aviation and offshore logistics?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Materials planning and traceability

Learning objectives

- Explain materials planning and traceability, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Materials planning and traceability
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Logistics and Supply-Chain Management

Teaching notes

Teaching notes

Core explanation. Materials planning translates maintenance and project demand into quantities, specifications, lead times and required dates. Traceability connects an item to its identity, certification, condition and location. Criticality affects stocking strategy.

Decision logic. Separate interchangeable consumables from controlled or serialised equipment. Forecast uncertainty and long lead times require explicit decisions. Expediting without specification control can deliver the wrong item faster. Maintain quarantine for discrepancies until authorised disposition.

Worked example. A connector arrives on time but its material certificate cannot be matched to the item.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a receiving discrepancy record and revised material plan.

Model answer guide. Hold the item from use pending verified identification and approved disposition; track schedule consequences.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a receiving discrepancy record and revised material plan.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of materials planning and traceability?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about materials planning and traceability?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about materials planning and traceability be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating materials planning and traceability?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in materials planning and traceability?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning materials planning and traceability?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for materials planning and traceability. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on materials planning and traceability contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about materials planning and traceability?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in materials planning and traceability?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Warehouse and inventory control

Learning objectives

- Explain warehouse and inventory control, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Warehouse and inventory control
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Logistics and Supply-Chain Management

Teaching notes

Teaching notes

Core explanation. Inventory control balances service availability, cost, condition and obsolescence. Explain stock codes, locations, cycle counts, reorder logic and preservation. Recorded quantity may differ from usable quantity when items are damaged or uncertified.

Decision logic. Use demand and lead-time assumptions transparently. Distinguish safety stock from unplanned surplus. Critical spares require failure-consequence review, not just demand averages. Investigate count differences rather than silently adjusting the system.

Worked example. Average demand is 2 items/week and replenishment takes 3 weeks; basic lead-time demand is 6 items before safety stock.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate the same quantity at 5-week lead time and discuss uncertainty.

Model answer guide. Ten items before safety stock; variability and criticality influence any additional holding.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Calculate the same quantity at 5-week lead time and discuss uncertainty.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of warehouse and inventory control?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about warehouse and inventory control?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about warehouse and inventory control be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating warehouse and inventory control?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in warehouse and inventory control?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning warehouse and inventory control?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for warehouse and inventory control. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on warehouse and inventory control contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about warehouse and inventory control?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in warehouse and inventory control?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Customs import and export interfaces

Learning objectives

- Explain customs import and export interfaces, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Customs import and export interfaces
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Logistics and Supply-Chain Management

Teaching notes

Teaching notes

Core explanation. Cross-border movements require accurate identity, classification, value, origin and supporting documents under applicable rules. Temporary movements and returns can differ from permanent imports. This lesson teaches document control, not a tariff or legal ruling.

Decision logic. Verify current requirements with authorised customs specialists. Avoid importing foreign exemptions or rates into Namibia. Reconcile purchase, shipping and receiving data and retain audit records. A logistics plan should allow time for lawful clearance.

Worked example. A fictional temporary tool shipment is documented as a permanent sale, creating inconsistent records.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Audit a fictional document set and list clarification questions.

Model answer guide. Reconcile transaction purpose, item identity, value basis, origin and return plan with qualified review.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Audit a fictional document set and list clarification questions.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of customs import and export interfaces?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about customs import and export interfaces?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about customs import and export interfaces be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating customs import and export interfaces?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in customs import and export interfaces?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning customs import and export interfaces?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for customs import and export interfaces. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on customs import and export interfaces contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about customs import and export interfaces?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in customs import and export interfaces?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Dangerous goods and marine cargo

Learning objectives

- Explain dangerous goods and marine cargo, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Dangerous goods and marine cargo
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Logistics and Supply-Chain Management

Teaching notes

Teaching notes

Core explanation. Dangerous-goods controls depend on substance, quantity, packaging, transport mode and role. Classification, segregation, marking and documentation require current authoritative rules. Awareness is distinct from authorisation to prepare or accept shipments.

Decision logic. Use mock documents and inert training items. Never assign actual classification or pack live dangerous goods from this handout. Damaged or uncertain cargo should be held and escalated. Air, sea and road requirements are not interchangeable.

Worked example. A fictional battery shipment is offered as general cargo without enough product or condition information.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Identify missing information and route the case for qualified review.

Model answer guide. Hold processing, verify battery details and applicable mode-specific requirements, and document the review.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Identify missing information and route the case for qualified review.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of dangerous goods and marine cargo?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about dangerous goods and marine cargo?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about dangerous goods and marine cargo be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating dangerous goods and marine cargo?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in dangerous goods and marine cargo?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning dangerous goods and marine cargo?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for dangerous goods and marine cargo. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on dangerous goods and marine cargo contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about dangerous goods and marine cargo?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in dangerous goods and marine cargo?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Procurement and supplier qualification

Learning objectives

- Explain procurement and supplier qualification, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Procurement and supplier qualification
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Logistics and Supply-Chain Management

Teaching notes

Teaching notes

Core explanation. Procurement translates a defined need into sourcing, evaluation, award and contract management. Separate mandatory eligibility, technical acceptance and commercial comparison. Clear specifications and evaluation criteria should exist before bids are opened.

Decision logic. Manage conflicts, confidentiality and fair treatment. Lowest price may not be lowest evaluated cost if quality, delivery and lifecycle support differ. Document decisions and follow delegated authority; this classroom exercise awards no real contracts.

Worked example. A low bid excludes offshore mobilisation while another includes it.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Normalise three fictional bids and prepare an evaluation recommendation.

Model answer guide. Compare like-for-like scope, clarify exclusions and include risk with an auditable decision basis.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Normalise three fictional bids and prepare an evaluation recommendation.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of procurement and supplier qualification?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about procurement and supplier qualification?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about procurement and supplier qualification be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating procurement and supplier qualification?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in procurement and supplier qualification?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning procurement and supplier qualification?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for procurement and supplier qualification. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on procurement and supplier qualification contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about procurement and supplier qualification?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in procurement and supplier qualification?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Contract and vendor performance

Learning objectives

- Explain contract and vendor performance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Contract and vendor performance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Logistics and Supply-Chain Management

Teaching notes

Teaching notes

Core explanation. Vendor management checks delivery against agreed scope, quality, schedule, HSE and commercial terms. Define measurable acceptance criteria and evidence. Relationship quality helps but does not replace objective verification.

Decision logic. Use proportionate reviews, corrective actions and escalation. Indicators can conflict: on-time delivery of defective items is poor performance. Changes require controlled agreement. Preserve records needed for payment, warranty and learning.

Worked example. A supplier meets delivery dates but repeatedly submits incomplete quality dossiers.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Develop a balanced performance scorecard and corrective-action request.

Model answer guide. Include first-time quality, documentation, delivery and action effectiveness with accountable dates.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Develop a balanced performance scorecard and corrective-action request.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of contract and vendor performance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about contract and vendor performance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about contract and vendor performance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating contract and vendor performance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in contract and vendor performance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning contract and vendor performance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for contract and vendor performance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on contract and vendor performance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about contract and vendor performance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in contract and vendor performance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Supplier qualification and development

Learning objectives

- Explain supplier qualification and development, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Supplier qualification and development
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Logistics and Supply-Chain Management

Teaching notes

Teaching notes

Core explanation. Supplier readiness combines legal identity, technical capability, HSE, quality, finance and delivery capacity. Prequalification is a screening stage, not an award guarantee. SMEs need clear evidence requirements and realistic package sizes.

Decision logic. Diagnose gaps and agree measurable development actions. Keep conflict-of-interest controls and transparent evaluation. A supplier can be ready for one package but not another; capability is scope-specific. Avoid treating registration on a portal as proof of competence.

Worked example. A small firm has strong fabrication skill but no traceable material-control process for the proposed package.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a supplier improvement plan with evidence and milestones.

Model answer guide. Include material traceability, qualified personnel, quality records and capacity checks matched to scope.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a supplier improvement plan with evidence and milestones.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of supplier qualification and development?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about supplier qualification and development?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about supplier qualification and development be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating supplier qualification and development?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in supplier qualification and development?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning supplier qualification and development?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for supplier qualification and development. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on supplier qualification and development contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about supplier qualification and development?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in supplier qualification and development?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Offshore Logistics and Supply-Chain Management: Competence Review

Learning objectives

- Explain certificate in offshore logistics and supply-chain management: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Logistics and Supply-Chain Management: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Logistics and Supply-Chain Management

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Logistics and Supply-Chain Management: Competence Review describes a practical part of Certificate in Offshore Logistics and Supply-Chain Management. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore logistics and supply-chain management: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore logistics and supply-chain management: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore logistics and supply-chain management: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore logistics and supply-chain management: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore logistics and supply-chain management: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore logistics and supply-chain management: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore logistics and supply-chain management: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore logistics and supply-chain management: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore logistics and supply-chain management: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore logistics and supply-chain management: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore logistics and supply-chain management: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore logistics and supply-chain management: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore logistics and supply-chain management: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore logistics and supply-chain management: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-029 | Certificate in Marine Environmental Management and Oil-Spill Preparedness

Level: C | Duration: 12 weeks | Audience: Learners appropriate to the stated programme level

12 weeks C programme focused on Certificate in Marine Environmental Management and Oil-Spill Preparedness, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Marine Environmental Management and Oil-Spill Preparedness.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Marine ecosystems and receptors

Learning objectives

- Explain marine ecosystems and receptors, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Marine ecosystems and receptors
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Marine Environmental Management and Oil-Spill Preparedness

Teaching notes

Teaching notes

Core explanation. Marine environmental assessment considers habitats, species, fisheries and human uses through seasonal and spatial patterns. A receptor is something potentially affected; a pathway links activity to exposure. Explain baseline variability before attributing change.

Decision logic. Build an activity-pathway-receptor model and identify data gaps. A single survey cannot represent every season. Comparisons must account for natural variability and sampling design. Do not invent local species distributions or protected-area boundaries.

Worked example. A fictional fishery overlaps a planned vessel route during only one season.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a seasonal receptor map using the provided fictional description.

Model answer guide. Identify timing, exposure and evidence needs; distinguish overlap from demonstrated impact.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a seasonal receptor map using the provided fictional description.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of marine ecosystems and receptors?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about marine ecosystems and receptors?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about marine ecosystems and receptors be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating marine ecosystems and receptors?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in marine ecosystems and receptors?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning marine ecosystems and receptors?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for marine ecosystems and receptors. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on marine ecosystems and receptors contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about marine ecosystems and receptors?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in marine ecosystems and receptors?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Environmental and social impact assessment

Learning objectives

- Explain environmental and social impact assessment, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Environmental and social impact assessment
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Marine Environmental Management and Oil-Spill Preparedness

Teaching notes

Teaching notes

Core explanation. An ESIA identifies project alternatives, baseline conditions, potential impacts, mitigation and monitoring. Social assessment includes affected livelihoods, access, distribution of benefits and grievance processes. Assessment should inform choices before they are fixed.

Decision logic. Apply avoidance before mitigation and consider cumulative impacts. Consultation needs accessible information and documented responses. A study's completion does not guarantee regulatory approval or community agreement. Actual scope follows applicable requirements and specialist review.

Worked example. Two fictional supply-base sites differ in transport distance and fishing-community access impacts.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Compare alternatives and prepare a consultation and mitigation plan.

Model answer guide. Show impact pathways, alternatives, affected groups, residual impacts and monitoring commitments.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Compare alternatives and prepare a consultation and mitigation plan.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of environmental and social impact assessment?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about environmental and social impact assessment?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about environmental and social impact assessment be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating environmental and social impact assessment?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in environmental and social impact assessment?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning environmental and social impact assessment?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for environmental and social impact assessment. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on environmental and social impact assessment contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about environmental and social impact assessment?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in environmental and social impact assessment?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Produced water hazardous substances and waste

Learning objectives

- Explain produced water hazardous substances and waste, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Produced water hazardous substances and waste
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Marine Environmental Management and Oil-Spill Preparedness

Teaching notes

Teaching notes

Core explanation. Waste management identifies streams, hazards, storage, treatment, transport and final disposition. Separate prevention, reuse, recovery and disposal. Safety data sheets support hazardous-substance understanding but do not replace task assessment.

Decision logic. Track quantities and chain of custody. Mixing streams can increase hazards or eliminate recovery options. Actual handling and discharge limits come from applicable approvals and competent procedures, not classroom defaults. Include spill prevention and contractor verification.

Worked example. A fictional warehouse labels used oil as general waste, obscuring treatment and disposal requirements.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a waste-stream register with controls and evidence.

Model answer guide. Include classification, segregation, containment, authorised route, quantities and receipts.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a waste-stream register with controls and evidence.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of produced water hazardous substances and waste?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about produced water hazardous substances and waste?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about produced water hazardous substances and waste be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating produced water hazardous substances and waste?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in produced water hazardous substances and waste?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning produced water hazardous substances and waste?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for produced water hazardous substances and waste. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on produced water hazardous substances and waste contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about produced water hazardous substances and waste?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in produced water hazardous substances and waste?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Oil spill prevention and response awareness

Learning objectives

- Explain oil spill prevention and response awareness, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Oil spill prevention and response awareness
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Marine Environmental Management and Oil-Spill Preparedness

Teaching notes

Teaching notes

Core explanation. Spill prevention addresses containment, transfer interfaces, equipment integrity and human actions. Response aims to protect people, prioritise receptors and use suitable tactics under authorised command. Response options depend on oil, weather and access.

Decision logic. Teach notification and planning through tabletop cases. Equipment presence alone does not establish readiness. Actual deployment, dispersant use and marine operations require competent teams and applicable approvals. This course does not confer an external response qualification.

Worked example. A hose leak occurs during a fictional transfer; wind and current threaten a sensitive receptor.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a first-response decision log without activating real equipment.

Model answer guide. Prioritise safety, source control within authority, notification, verified information and coordinated response.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a first-response decision log without activating real equipment.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of oil spill prevention and response awareness?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about oil spill prevention and response awareness?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about oil spill prevention and response awareness be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating oil spill prevention and response awareness?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in oil spill prevention and response awareness?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning oil spill prevention and response awareness?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for oil spill prevention and response awareness. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on oil spill prevention and response awareness contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about oil spill prevention and response awareness?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in oil spill prevention and response awareness?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Spill modelling and response planning

Learning objectives

- Explain spill modelling and response planning, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Spill modelling and response planning
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Marine Environmental Management and Oil-Spill Preparedness

Teaching notes

Teaching notes

Core explanation. Spill models estimate transport and fate under specified release, oil and environmental assumptions. They produce scenarios, not exact predictions. Explain trajectory uncertainty, weathering and the importance of current metocean data.

Decision logic. Compare multiple release and weather cases. Connect outputs to response priorities and resource needs without treating a single line as a guaranteed path. Validate model limitations and update information during actual response through competent specialists.

Worked example. Two current scenarios carry a fictional release toward different receptors; one deterministic trajectory hides that range.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Compare scenario maps described in the exercise and propose robust priorities.

Model answer guide. Identify common priorities, scenario-dependent actions, monitoring needs and uncertainty.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Compare scenario maps described in the exercise and propose robust priorities.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of spill modelling and response planning?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about spill modelling and response planning?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about spill modelling and response planning be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating spill modelling and response planning?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in spill modelling and response planning?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning spill modelling and response planning?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for spill modelling and response planning. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on spill modelling and response planning contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about spill modelling and response planning?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in spill modelling and response planning?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Shoreline protection and recovery

Learning objectives

- Explain shoreline protection and recovery, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Shoreline protection and recovery
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Marine Environmental Management and Oil-Spill Preparedness

Teaching notes

Teaching notes

Core explanation. Shoreline response depends on substrate, access, ecological sensitivity, oil condition and public safety. Intervention can itself cause damage. Explain survey, prioritisation, waste handling and recovery endpoints conceptually.

Decision logic. Choose tactics through authorised environmental and operational review. Avoid assuming the most aggressive cleanup is best. Define evidence for completion and monitoring rather than promising restoration by a fixed date. No unsupervised shoreline deployment is included.

Worked example. A fragile fictional wetland may be harmed by heavy vehicles even when access would speed cleanup.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Compare protection and cleanup options and list tradeoffs.

Model answer guide. Include secondary damage, access, responder safety, waste and agreed endpoints.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Compare protection and cleanup options and list tradeoffs.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of shoreline protection and recovery?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about shoreline protection and recovery?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about shoreline protection and recovery be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating shoreline protection and recovery?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in shoreline protection and recovery?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning shoreline protection and recovery?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for shoreline protection and recovery. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on shoreline protection and recovery contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about shoreline protection and recovery?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in shoreline protection and recovery?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Marine monitoring and evidence quality

Learning objectives

- Explain marine monitoring and evidence quality, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Marine monitoring and evidence quality
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Marine Environmental Management and Oil-Spill Preparedness

Teaching notes

Teaching notes

Core explanation. Monitoring tests defined questions using repeatable sampling, measurement and analysis. Explain baseline, reference locations, quality control and detection limits. A changing measurement does not establish its cause automatically.

Decision logic. Specify indicators, frequency, methods, responsibilities and action thresholds through competent review. Maintain chain of custody and calibration records. Interpret trends alongside natural variability and other activities. Avoid using unsupported universal compliance limits.

Worked example. A sample result rises after a storm at both project and reference locations.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Interpret the result and propose a proportionate follow-up.

Model answer guide. Consider regional variability, method quality and exposure pathways before attributing causation.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Interpret the result and propose a proportionate follow-up.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of marine monitoring and evidence quality?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about marine monitoring and evidence quality?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about marine monitoring and evidence quality be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating marine monitoring and evidence quality?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in marine monitoring and evidence quality?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning marine monitoring and evidence quality?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for marine monitoring and evidence quality. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on marine monitoring and evidence quality contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about marine monitoring and evidence quality?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in marine monitoring and evidence quality?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Biodiversity management

Learning objectives

- Explain biodiversity management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Biodiversity management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Marine Environmental Management and Oil-Spill Preparedness

Teaching notes

Teaching notes

Core explanation. Biodiversity management identifies important habitats and species, evaluates exposure and applies avoidance, minimisation and restoration where appropriate. Conservation objectives and legal requirements need site-specific verification. Distinguish operational mitigation from a claim of net benefit.

Decision logic. Create measurable commitments with baseline and monitoring evidence. Offsets, if considered, need rigorous specialist and regulatory evaluation; they do not automatically erase impacts. Include cumulative pressures and stakeholder knowledge.

Worked example. A fictional development can reroute a support activity away from a sensitive seasonal habitat.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Draft a hierarchy-based biodiversity action plan.

Model answer guide. Prioritise avoidance, define indicators and ownership, and identify evidence needed for residual-impact review.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Draft a hierarchy-based biodiversity action plan.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of biodiversity management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about biodiversity management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about biodiversity management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating biodiversity management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in biodiversity management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning biodiversity management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for biodiversity management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on biodiversity management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about biodiversity management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in biodiversity management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Environmental legal register and compliance

Learning objectives

- Explain environmental legal register and compliance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Environmental legal register and compliance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Marine Environmental Management and Oil-Spill Preparedness

Teaching notes

Teaching notes

Core explanation. Environmental duties can arise across assessment, permits, operating conditions, waste, monitoring and closure. Identify the activity, receptor and obligation before choosing evidence. A permit application is different from an issued approval.

Decision logic. Build a current obligations register verified against official instruments and site-specific conditions. Do not import foreign discharge limits as local law. Compliance monitoring should record accountable owners, exceedances, corrective action and reporting requirements.

Worked example. A project has an assessment report but no verified record of the required approval decision.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review a fictional compliance register and classify missing evidence.

Model answer guide. Flag unverified approvals and conditions; do not mark compliant merely because a study exists.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review a fictional compliance register and classify missing evidence.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of environmental legal register and compliance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about environmental legal register and compliance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about environmental legal register and compliance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating environmental legal register and compliance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in environmental legal register and compliance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning environmental legal register and compliance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for environmental legal register and compliance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on environmental legal register and compliance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about environmental legal register and compliance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in environmental legal register and compliance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Marine Environmental Management and Oil-Spill Preparedness: Competence Review

Learning objectives

- Explain certificate in marine environmental management and oil-spill preparedness: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Marine Environmental Management and Oil-Spill Preparedness: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Marine Environmental Management and Oil-Spill Preparedness

Teaching notes

Teaching notes

Core explanation. Certificate in Marine Environmental Management and Oil-Spill Preparedness: Competence Review describes a practical part of Certificate in Marine Environmental Management and Oil-Spill Preparedness. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in marine environmental management and oil-spill preparedness: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in marine environmental management and oil-spill preparedness: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in marine environmental management and oil-spill preparedness: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in marine environmental management and oil-spill preparedness: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in marine environmental management and oil-spill preparedness: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in marine environmental management and oil-spill preparedness: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in marine environmental management and oil-spill preparedness: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in marine environmental management and oil-spill preparedness: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in marine environmental management and oil-spill preparedness: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in marine environmental management and oil-spill preparedness: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in marine environmental management and oil-spill preparedness: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in marine environmental management and oil-spill preparedness: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in marine environmental management and oil-spill preparedness: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in marine environmental management and oil-spill preparedness: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-030 | Certificate in Digital Oilfield, Automation and Cybersecurity

Level: C | Duration: 12 weeks | Audience: Learners appropriate to the stated programme level

12 weeks C programme focused on Certificate in Digital Oilfield, Automation and Cybersecurity, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Digital Oilfield, Automation and Cybersecurity.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Industrial instrumentation

Learning objectives

- Explain industrial instrumentation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Industrial instrumentation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Digital Oilfield, Automation and Cybersecurity

Teaching notes

Teaching notes

Core explanation. Sensors and transmitters convert process conditions into signals. Teach range, span, accuracy, calibration and measurement uncertainty. Pressure, temperature, flow and level measurements use different principles and installation constraints.

Decision logic. Trace a measurement from process interface through signal conversion to display. Incorrect range or units can mislead control and operations. An apparently stable value may be frozen or invalid. Actual instrument work follows authorised isolation and manufacturer procedures.

Worked example. A 4-20 mA signal represents 0-100 units; 12 mA corresponds to 50 units under a linear mapping.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate the indicated value at 8 mA and identify assumptions.

Model answer guide. Twenty-five units with linear mapping and a valid signal; check range and status.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Calculate the indicated value at 8 mA and identify assumptions.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of industrial instrumentation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about industrial instrumentation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about industrial instrumentation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating industrial instrumentation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in industrial instrumentation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning industrial instrumentation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for industrial instrumentation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on industrial instrumentation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about industrial instrumentation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in industrial instrumentation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: SCADA DCS and integrated control systems

Learning objectives

- Explain scada dcs and integrated control systems, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of SCADA DCS and integrated control systems
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Digital Oilfield, Automation and Cybersecurity

Teaching notes

Teaching notes

Core explanation. Control systems acquire signals, execute logic and support operator actions. SCADA, DCS and integrated control architectures differ by context; safety functions require appropriate separation and assurance. Explain sensor, controller, final element and human interface.

Decision logic. Alarm and control design must match process needs and human capability. More alarms do not necessarily improve safety. Changes to logic require controlled review, testing and approval. This course uses simulation only and provides no live-system modification instructions.

Worked example. An alarm floods the operator screen during a simulated upset, obscuring the initiating condition.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Map a control loop and evaluate an alarm list for prioritisation questions.

Model answer guide. Identify measurement, logic, final element and feedback, with rationalised alarms and change control.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Map a control loop and evaluate an alarm list for prioritisation questions.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of scada dcs and integrated control systems?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about scada dcs and integrated control systems?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about scada dcs and integrated control systems be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating scada dcs and integrated control systems?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in scada dcs and integrated control systems?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning scada dcs and integrated control systems?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for scada dcs and integrated control systems. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on scada dcs and integrated control systems contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about scada dcs and integrated control systems?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in scada dcs and integrated control systems?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Offshore telecommunications

Learning objectives

- Explain offshore telecommunications, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Offshore telecommunications
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Digital Oilfield, Automation and Cybersecurity

Teaching notes

Teaching notes

Core explanation. Offshore communications connect voice, data, control and emergency functions through links with differing bandwidth, latency and availability. Define service requirements before selecting technology. Emergency and operational needs may require resilience independent of business traffic.

Decision logic. Create a dependency map and test loss-of-link scenarios. A redundant link is useful only if common failures are understood. Remote support needs access control and agreed authority. Do not expose real network details in course submissions.

Worked example. Two nominally redundant links share one power supply, creating a common failure point.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Design a conceptual communications matrix with primary and fallback services.

Model answer guide. Include power, physical diversity, capacity, latency, security and failure response.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Design a conceptual communications matrix with primary and fallback services.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of offshore telecommunications?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about offshore telecommunications?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about offshore telecommunications be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating offshore telecommunications?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in offshore telecommunications?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning offshore telecommunications?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for offshore telecommunications. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on offshore telecommunications contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about offshore telecommunications?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in offshore telecommunications?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Industrial data architecture and governance

Learning objectives

- Explain industrial data architecture and governance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Industrial data architecture and governance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Digital Oilfield, Automation and Cybersecurity

Teaching notes

Teaching notes

Core explanation. Industrial data flows from sensors through historians and integration platforms to analysis and decisions. Define asset identity, units, timestamps, quality status and ownership. A large dataset is not necessarily fit for purpose.

Decision logic. Check time synchronisation, missing values, calibration changes and access permissions before analysis. Keep provenance and revision history. Avoid transferring confidential operational data into exercises; all datasets in this package are fictional.

Worked example. A trend combines pressure in bar and kilopascals under one label, producing a false step change.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a data dictionary and quality checks for a fictional dataset.

Model answer guide. Define units, time basis, validity flags, owner and transformations; resolve inconsistent units before interpretation.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a data dictionary and quality checks for a fictional dataset.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of industrial data architecture and governance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about industrial data architecture and governance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about industrial data architecture and governance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating industrial data architecture and governance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in industrial data architecture and governance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning industrial data architecture and governance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for industrial data architecture and governance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on industrial data architecture and governance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about industrial data architecture and governance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in industrial data architecture and governance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Digital twins and model purpose

Learning objectives

- Explain digital twins and model purpose, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Digital twins and model purpose
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Digital Oilfield, Automation and Cybersecurity

Teaching notes

Teaching notes

Core explanation. A digital twin is a purpose-driven digital representation connected to an asset or process through defined data and update arrangements. Distinguish a static drawing, an analytical model and a maintained operational representation.

Decision logic. Specify the decision, fidelity, data, validation and ownership before investing. A visually convincing twin can be wrong. Evaluate model drift and consequences of incorrect recommendations. Integration with control or maintenance requires governed change and human accountability.

Worked example. A fictional pump twin predicts wear but has not been updated after a major overhaul.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Define a twin use case and a validation and update plan.

Model answer guide. Include decision value, measurements, acceptance evidence, versioning and human review.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Define a twin use case and a validation and update plan.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of digital twins and model purpose?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about digital twins and model purpose?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about digital twins and model purpose be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating digital twins and model purpose?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in digital twins and model purpose?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning digital twins and model purpose?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for digital twins and model purpose. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on digital twins and model purpose contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about digital twins and model purpose?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in digital twins and model purpose?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Condition monitoring

Learning objectives

- Explain condition monitoring, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Condition monitoring
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Digital Oilfield, Automation and Cybersecurity

Teaching notes

Teaching notes

Core explanation. Condition monitoring trends indicators such as vibration, temperature, lubricant condition and process performance. A threshold is meaningful only with context, measurement quality and an agreed response. Distinguish detection, diagnosis and prognosis.

Decision logic. Compare data under similar operating conditions and check sensor health. An anomaly should prompt structured investigation, not automatic disassembly or shutdown from this handout. Actual response follows the asset's approved procedures.

Worked example. Vibration rises after a load change but returns to normal at the original duty.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Interpret the trend and propose follow-up measurements.

Model answer guide. Consider duty effects, baseline, sensor quality and corroborating evidence before diagnosing damage.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Interpret the trend and propose follow-up measurements.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of condition monitoring?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about condition monitoring?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about condition monitoring be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating condition monitoring?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in condition monitoring?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning condition monitoring?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for condition monitoring. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on condition monitoring contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about condition monitoring?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in condition monitoring?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Artificial intelligence in operations

Learning objectives

- Explain artificial intelligence in operations, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Artificial intelligence in operations
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Digital Oilfield, Automation and Cybersecurity

Teaching notes

Teaching notes

Core explanation. AI can support classification, anomaly detection and forecasting when data and evaluation match the intended task. Explain training data, validation, error and drift. A confident output is not evidence of correctness.

Decision logic. Use a decision-impact assessment and compare against a simpler baseline. Keep humans accountable for consequential choices. Avoid sensitive data in prompts and do not connect models to live controls through this course. Define fallback when data shift.

Worked example. A model trained on one pump type gives frequent false alarms on a different design.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create an evaluation plan with error costs and a human review route.

Model answer guide. Include representative test data, false positives and negatives, drift monitoring and clear limits.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create an evaluation plan with error costs and a human review route.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of artificial intelligence in operations?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about artificial intelligence in operations?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about artificial intelligence in operations be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating artificial intelligence in operations?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in artificial intelligence in operations?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning artificial intelligence in operations?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for artificial intelligence in operations. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on artificial intelligence in operations contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about artificial intelligence in operations?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in artificial intelligence in operations?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: OT and ICS cybersecurity awareness

Learning objectives

- Explain ot and ics cybersecurity awareness, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of OT and ICS cybersecurity awareness
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Digital Oilfield, Automation and Cybersecurity

Teaching notes

Teaching notes

Core explanation. Operational technology controls physical processes, so availability, safety and predictable operation are central. Explain assets, zones, connections, remote access and dependencies conceptually. Security controls must be coordinated with operational and safety requirements.

Decision logic. Use a tabletop risk assessment on fictional architecture. Inventory, controlled access, segmentation, backup and recovery are discussion topics, not permission for live changes or scanning. Approved change and incident procedures govern actual systems.

Worked example. An unrecorded remote-support connection bypasses the fictional architecture's reviewed access path.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Identify risk and propose review questions without touching any real network.

Model answer guide. Request asset ownership, approved access route, monitoring, recovery and safety coordination.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Identify risk and propose review questions without touching any real network.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of ot and ics cybersecurity awareness?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about ot and ics cybersecurity awareness?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about ot and ics cybersecurity awareness be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating ot and ics cybersecurity awareness?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in ot and ics cybersecurity awareness?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning ot and ics cybersecurity awareness?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for ot and ics cybersecurity awareness. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on ot and ics cybersecurity awareness contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about ot and ics cybersecurity awareness?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in ot and ics cybersecurity awareness?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Information security management systems

Learning objectives

- Explain information security management systems, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Information security management systems
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Digital Oilfield, Automation and Cybersecurity

Teaching notes

Teaching notes

Core explanation. An ISMS establishes governance for protecting information through risk management, responsibilities, controls and continual improvement. Define scope, interested parties and information assets before selecting controls. This is original awareness content informed by the supplied implementation proposal.

Decision logic. Connect risk treatment, documented decisions, monitoring, audit and corrective action. Obtain licensed standards for formal implementation and verify external certification requirements with the relevant body. This course does not award PECB or ISO certification and reproduces no official examination.

Worked example. A fictional academy protects student records through defined access, retention and incident responsibilities.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Draft an ISMS scope, three risks and a treatment review plan.

Model answer guide. Require risk owners, justified treatments, evidence, review and escalation; distinguish organisational certification from personal credentials.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Draft an ISMS scope, three risks and a treatment review plan.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of information security management systems?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about information security management systems?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about information security management systems be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating information security management systems?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in information security management systems?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning information security management systems?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for information security management systems. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on information security management systems contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about information security management systems?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in information security management systems?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Digital Oilfield, Automation and Cybersecurity: Competence Review

Learning objectives

- Explain certificate in digital oilfield, automation and cybersecurity: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Digital Oilfield, Automation and Cybersecurity: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Digital Oilfield, Automation and Cybersecurity

Teaching notes

Teaching notes

Core explanation. Certificate in Digital Oilfield, Automation and Cybersecurity: Competence Review describes a practical part of Certificate in Digital Oilfield, Automation and Cybersecurity. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in digital oilfield, automation and cybersecurity: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in digital oilfield, automation and cybersecurity: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in digital oilfield, automation and cybersecurity: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in digital oilfield, automation and cybersecurity: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in digital oilfield, automation and cybersecurity: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in digital oilfield, automation and cybersecurity: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in digital oilfield, automation and cybersecurity: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in digital oilfield, automation and cybersecurity: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in digital oilfield, automation and cybersecurity: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in digital oilfield, automation and cybersecurity: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in digital oilfield, automation and cybersecurity: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in digital oilfield, automation and cybersecurity: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in digital oilfield, automation and cybersecurity: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in digital oilfield, automation and cybersecurity: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-031 | Certificate in Energy Project Management

Level: C | Duration: 12 weeks | Audience: Learners appropriate to the stated programme level

12 weeks C programme focused on Certificate in Energy Project Management, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Energy Project Management.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Project initiation and governance

Learning objectives

- Explain project initiation and governance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Project initiation and governance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Project Management

Teaching notes

Teaching notes

Core explanation. A project charter defines purpose, intended benefits, scope boundary, sponsor, authority and success criteria. Distinguish a project output from the benefit it enables. Governance establishes who approves funding, change and acceptance at each stage.

Decision logic. Test alignment with business need and implementation capacity before detailed planning. Record assumptions and dependencies. A charter should identify exclusions and decision rights rather than promising guaranteed results. Benefits need an owner beyond project handover.

Worked example. A fictional project delivers a warehouse system; the intended benefit is reduced picking errors, which must be measured separately.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Write a one-page charter with benefits, authority and evidence of success.

Model answer guide. Include sponsor, measurable outcomes, scope, constraints, assumptions and acceptance owner.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Write a one-page charter with benefits, authority and evidence of success.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of project initiation and governance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about project initiation and governance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about project initiation and governance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating project initiation and governance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in project initiation and governance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning project initiation and governance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for project initiation and governance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on project initiation and governance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about project initiation and governance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in project initiation and governance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Scope and work breakdown structures

Learning objectives

- Explain scope and work breakdown structures, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Scope and work breakdown structures
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Project Management

Teaching notes

Teaching notes

Core explanation. Scope defines required outputs and boundaries. A WBS decomposes deliverables into manageable work packages; a dictionary clarifies content, exclusions and acceptance. Activities are derived from scope rather than substituted for it.

Decision logic. Trace requirements to deliverables and verification. Check for omissions, overlap and owner interfaces. Scope changes should assess cost, schedule, risk and benefits before approval. A detailed WBS is useful only when it supports responsibility and control.

Worked example. Two teams both assume the other supplies offshore installation support.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Build a WBS and dictionary entry resolving the missing interface.

Model answer guide. Assign the deliverable, acceptance evidence, owner and boundary explicitly.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Build a WBS and dictionary entry resolving the missing interface.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of scope and work breakdown structures?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about scope and work breakdown structures?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about scope and work breakdown structures be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating scope and work breakdown structures?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in scope and work breakdown structures?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning scope and work breakdown structures?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for scope and work breakdown structures. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on scope and work breakdown structures contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about scope and work breakdown structures?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in scope and work breakdown structures?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Planning scheduling and critical path

Learning objectives

- Explain planning scheduling and critical path, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Planning scheduling and critical path
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Project Management

Teaching notes

Teaching notes

Core explanation. A schedule links activities through dependencies, durations, calendars and resources. Critical path identifies the longest duration path under the model's assumptions. Float is a calculated property, not spare time owned automatically by one team.

Decision logic. Validate logic before trusting dates. Resource constraints and uncertain weather windows can change the critical path. Compression may add cost or risk. State assumptions and update from actual progress rather than forcing the plan to match a desired date.

Worked example. Path A takes 3 plus 4 days; parallel path B takes 5 days. The simplified project duration is 7 days.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate duration after A's first task increases to 5 days.

Model answer guide. The A path becomes 9 days; assess downstream effects and valid recovery choices.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Calculate duration after A's first task increases to 5 days.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of planning scheduling and critical path?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about planning scheduling and critical path?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about planning scheduling and critical path be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating planning scheduling and critical path?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in planning scheduling and critical path?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning planning scheduling and critical path?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for planning scheduling and critical path. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on planning scheduling and critical path contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about planning scheduling and critical path?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in planning scheduling and critical path?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: CAPEX OPEX and estimating

Learning objectives

- Explain capex opex and estimating, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of CAPEX OPEX and estimating
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Project Management

Teaching notes

Teaching notes

Core explanation. Capital estimates cover assets and development; operating estimates cover recurring delivery and support activities. Define scope, price basis, location, currency, schedule and exclusions before estimating. A number without its basis is difficult to review.

Decision logic. Use analogous, parametric and bottom-up methods according to data maturity. Separate base estimate, identified risk contingency and other reserves under the adopted governance. Avoid implying that contingency is spare money for scope additions.

Worked example. A fictional equipment package is 10 million and installation is estimated at 40% of equipment cost; subtotal is 14 million before other scope.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Write an estimate basis and identify five excluded cost items.

Model answer guide. Include logistics, commissioning, taxes, spares and owner costs where appropriate; state assumptions rather than silently adding them.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Write an estimate basis and identify five excluded cost items.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of capex opex and estimating?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about capex opex and estimating?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about capex opex and estimating be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating capex opex and estimating?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in capex opex and estimating?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning capex opex and estimating?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for capex opex and estimating. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on capex opex and estimating contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about capex opex and estimating?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in capex opex and estimating?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Procurement and supplier qualification

Learning objectives

- Explain procurement and supplier qualification, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Procurement and supplier qualification
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Project Management

Teaching notes

Teaching notes

Core explanation. Procurement translates a defined need into sourcing, evaluation, award and contract management. Separate mandatory eligibility, technical acceptance and commercial comparison. Clear specifications and evaluation criteria should exist before bids are opened.

Decision logic. Manage conflicts, confidentiality and fair treatment. Lowest price may not be lowest evaluated cost if quality, delivery and lifecycle support differ. Document decisions and follow delegated authority; this classroom exercise awards no real contracts.

Worked example. A low bid excludes offshore mobilisation while another includes it.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Normalise three fictional bids and prepare an evaluation recommendation.

Model answer guide. Compare like-for-like scope, clarify exclusions and include risk with an auditable decision basis.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Normalise three fictional bids and prepare an evaluation recommendation.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of procurement and supplier qualification?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about procurement and supplier qualification?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about procurement and supplier qualification be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating procurement and supplier qualification?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in procurement and supplier qualification?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning procurement and supplier qualification?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for procurement and supplier qualification. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on procurement and supplier qualification contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about procurement and supplier qualification?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in procurement and supplier qualification?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Project quality and acceptance

Learning objectives

- Explain project quality and acceptance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Project quality and acceptance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Project Management

Teaching notes

Teaching notes

Core explanation. Quality planning defines requirements, methods and evidence for conformance. Assurance evaluates the system; control checks outputs. Inspection and test plans use hold and witness points appropriate to consequence and scope.

Decision logic. Trace requirements through supplier records, fabrication, testing and handover. A test result must identify what was tested and against which criterion. Do not invent acceptance limits from generic training notes. Nonconformities require controlled disposition.

Worked example. A certificate reports a successful test but omits item identification and the acceptance basis.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review the fictional dossier and write a nonconformity and closure requirement.

Model answer guide. Require traceable identity, approved criteria, valid method and authorised disposition.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review the fictional dossier and write a nonconformity and closure requirement.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of project quality and acceptance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about project quality and acceptance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about project quality and acceptance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating project quality and acceptance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in project quality and acceptance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning project quality and acceptance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for project quality and acceptance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on project quality and acceptance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about project quality and acceptance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in project quality and acceptance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Stakeholder engagement and communication

Learning objectives

- Explain stakeholder engagement and communication, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Stakeholder engagement and communication
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Project Management

Teaching notes

Teaching notes

Core explanation. Stakeholders can affect or be affected by a project. Analyse interests, influence, exposure and communication needs. Consultation is a continuing process, not simply sending information. Include groups with high impact exposure but limited formal power.

Decision logic. Choose accessible channels and record concerns, responses and decisions. Avoid assuming silence equals consent. Communication plans should define purpose, owner, timing, feedback and confidentiality. Actual commitments need delegated authority.

Worked example. A fictional port project consults officials but overlooks fishers whose access may change.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Develop an engagement plan and grievance-response route.

Model answer guide. Include affected groups, accessible formats, response tracking and boundaries on commitments.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Develop an engagement plan and grievance-response route.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of stakeholder engagement and communication?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about stakeholder engagement and communication?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about stakeholder engagement and communication be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating stakeholder engagement and communication?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in stakeholder engagement and communication?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning stakeholder engagement and communication?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for stakeholder engagement and communication. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on stakeholder engagement and communication contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about stakeholder engagement and communication?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in stakeholder engagement and communication?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Risk assessment and uncertainty management

Learning objectives

- Explain risk assessment and uncertainty management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Risk assessment and uncertainty management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Project Management

Teaching notes

Teaching notes

Core explanation. Define the activity and potential harm, identify hazards, evaluate existing controls, then decide further controls and ownership. A risk matrix supports prioritisation but does not prove a risk is tolerable. Include affected people and changing conditions.

Decision logic. Test whether controls are present and effective. Residual risk should be reassessed after control implementation, not merely after a promise. Escalate high-consequence uncertainty for competent review. Project risk also includes schedule, cost and opportunity effects.

Worked example. A permit lists a barrier that has not yet been installed. The claimed residual risk is premature.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Complete a risk register with cause, event, consequence, control, owner and verification.

Model answer guide. Keep hazard and consequence distinct and require evidence before taking control credit.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Complete a risk register with cause, event, consequence, control, owner and verification.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of risk assessment and uncertainty management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about risk assessment and uncertainty management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about risk assessment and uncertainty management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating risk assessment and uncertainty management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in risk assessment and uncertainty management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning risk assessment and uncertainty management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for risk assessment and uncertainty management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on risk assessment and uncertainty management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about risk assessment and uncertainty management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in risk assessment and uncertainty management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Earned value and project control

Learning objectives

- Explain earned value and project control, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Earned value and project control
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Project Management

Teaching notes

Teaching notes

Core explanation. Planned value represents scheduled budgeted work; earned value represents budgeted value of completed work; actual cost represents expenditure. CPI equals EV divided by AC and SPI equals EV divided by PV under the chosen measurement method.

Decision logic. Earned value needs a reliable baseline and objective progress rules. Spending less may reflect delayed work, not efficiency. Forecasts require remaining-work judgement and known changes. Explain that aggregate indices can hide critical delays or poor quality.

Worked example. With EV 80, AC 100 and PV 90, CPI is 0.8 and SPI about 0.89.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate the indices and write a management interpretation.

Model answer guide. Cost efficiency and progress are adverse under the baseline; investigate causes and forecast remaining work.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Calculate the indices and write a management interpretation.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of earned value and project control?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about earned value and project control?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about earned value and project control be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating earned value and project control?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in earned value and project control?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning earned value and project control?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for earned value and project control. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on earned value and project control contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about earned value and project control?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in earned value and project control?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Energy Project Management: Competence Review

Learning objectives

- Explain certificate in energy project management: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Energy Project Management: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Project Management

Teaching notes

Teaching notes

Core explanation. Certificate in Energy Project Management: Competence Review describes a practical part of Certificate in Energy Project Management. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in energy project management: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in energy project management: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in energy project management: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in energy project management: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in energy project management: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in energy project management: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in energy project management: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in energy project management: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in energy project management: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in energy project management: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in energy project management: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in energy project management: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in energy project management: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in energy project management: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X01 | Certificate in Offshore Production Technology

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Offshore Production Technology, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Offshore Production Technology.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Certificate in Offshore Production Technology: Core Concepts

Learning objectives

- Explain certificate in offshore production technology: core concepts, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Production Technology: Core Concepts
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Production Technology

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Production Technology: Core Concepts describes a practical part of Certificate in Offshore Production Technology. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore production technology: core concepts. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore production technology: core concepts while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore production technology: core concepts: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore production technology: core concepts: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore production technology: core concepts?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore production technology: core concepts?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore production technology: core concepts be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore production technology: core concepts?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore production technology: core concepts?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore production technology: core concepts?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore production technology: core concepts. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore production technology: core concepts contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore production technology: core concepts?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore production technology: core concepts?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Separation gas processing and utilities

Learning objectives

- Explain separation gas processing and utilities, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Separation gas processing and utilities
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Production Technology

Teaching notes

Teaching notes

Core explanation. Production fluids are separated into oil, gas and water streams before further treatment. Gas compression, dehydration, oil stabilisation and utilities support product specifications and safe operation. Explain process flow diagrams before introducing instrument-level drawings.

Decision logic. Mass balance links input, output and accumulation. A bottleneck in power, cooling or compression can limit oil production. Product quality, emissions and integrity constrain throughput. Actual settings and alarm responses must follow approved procedures.

Worked example. A separator receives 100 mass units/hour; 55 leave as oil, 20 as gas and 25 as water, with no accumulation.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Reconcile a second balance with a missing stream and discuss measurement uncertainty.

Model answer guide. Total output plus accumulation must equal input; unexplained imbalance requires data checking.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Reconcile a second balance with a missing stream and discuss measurement uncertainty.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of separation gas processing and utilities?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about separation gas processing and utilities?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about separation gas processing and utilities be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating separation gas processing and utilities?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in separation gas processing and utilities?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning separation gas processing and utilities?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for separation gas processing and utilities. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on separation gas processing and utilities contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about separation gas processing and utilities?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in separation gas processing and utilities?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Certificate in Offshore Production Technology: Systems and Interfaces

Learning objectives

- Explain certificate in offshore production technology: systems and interfaces, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Production Technology: Systems and Interfaces
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Production Technology

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Production Technology: Systems and Interfaces describes a practical part of Certificate in Offshore Production Technology. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore production technology: systems and interfaces. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore production technology: systems and interfaces while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore production technology: systems and interfaces: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore production technology: systems and interfaces: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore production technology: systems and interfaces?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore production technology: systems and interfaces?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore production technology: systems and interfaces be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore production technology: systems and interfaces?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore production technology: systems and interfaces?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore production technology: systems and interfaces?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore production technology: systems and interfaces. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore production technology: systems and interfaces contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore production technology: systems and interfaces?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore production technology: systems and interfaces?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Flow assurance

Learning objectives

- Explain flow assurance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Flow assurance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Production Technology

Teaching notes

Teaching notes

Core explanation. Flow assurance manages the ability to transport fluids through operating and transient conditions. Hydrates, wax, scale, corrosion and slugging can threaten performance. Explain the pressure-temperature-composition relationship qualitatively with a cooling pipeline sketch.

Decision logic. Assess startup, shutdown and restart as well as steady operation. Chemical treatment, insulation and operating strategies interact with facilities and environmental constraints. Classroom discussion does not prescribe inhibitor doses or live restart sequences.

Worked example. A pipeline flows normally when warm but cools during a long shutdown, changing restart risk.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Build a flow-assurance risk register for normal operation and shutdown.

Model answer guide. Include fluid data, thermal history, safeguards, monitoring and an authorised specialist review before restart.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Build a flow-assurance risk register for normal operation and shutdown.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of flow assurance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about flow assurance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about flow assurance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating flow assurance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in flow assurance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning flow assurance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for flow assurance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on flow assurance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about flow assurance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in flow assurance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Well testing and pressure interpretation

Learning objectives

- Explain well testing and pressure interpretation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Well testing and pressure interpretation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Production Technology

Teaching notes

Teaching notes

Core explanation. A well test records flow and pressure response to infer reservoir and well behaviour. Explain drawdown, buildup, skin and boundary effects conceptually. Measurement resolution, rate history and test duration constrain interpretation.

Decision logic. Different models can fit limited data. Use derivative behaviour and independent geology to test models rather than declaring a unique answer. Short tests may not observe distant boundaries. Operational testing requires an approved programme and safety controls.

Worked example. A short buildup appears stable but has not investigated the reservoir boundary; connectivity remains uncertain.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review a fictional test summary and list claims supported and unsupported by it.

Model answer guide. Separate local mobility evidence from field-wide connectivity and long-term deliverability claims.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review a fictional test summary and list claims supported and unsupported by it.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of well testing and pressure interpretation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about well testing and pressure interpretation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about well testing and pressure interpretation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating well testing and pressure interpretation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in well testing and pressure interpretation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning well testing and pressure interpretation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for well testing and pressure interpretation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on well testing and pressure interpretation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about well testing and pressure interpretation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in well testing and pressure interpretation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Certificate in Offshore Production Technology: Data and Performance

Learning objectives

- Explain certificate in offshore production technology: data and performance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Production Technology: Data and Performance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Production Technology

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Production Technology: Data and Performance describes a practical part of Certificate in Offshore Production Technology. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore production technology: data and performance. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore production technology: data and performance while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore production technology: data and performance: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore production technology: data and performance: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore production technology: data and performance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore production technology: data and performance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore production technology: data and performance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore production technology: data and performance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore production technology: data and performance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore production technology: data and performance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore production technology: data and performance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore production technology: data and performance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore production technology: data and performance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore production technology: data and performance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Integrated reservoir management

Learning objectives

- Explain integrated reservoir management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Integrated reservoir management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Production Technology

Teaching notes

Teaching notes

Core explanation. Reservoir management links surveillance, models, wells, facilities and economics to an agreed objective. Define decision triggers and data owners. A model is useful when it helps choose an action and exposes uncertainty, not simply because it has many cells.

Decision logic. Use a closed learning cycle: predict, measure, compare, diagnose and revise. History matching can be non-unique, so retain plausible alternatives and test decisions against them. Integrate subsurface and operations teams when reviewing constraints and new evidence.

Worked example. Measured water breakthrough is earlier than predicted. Review connectivity and completion assumptions before merely adjusting a curve.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a surveillance plan with three measurements and associated decision triggers.

Model answer guide. Each measurement must connect to a management choice, owner and review frequency.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a surveillance plan with three measurements and associated decision triggers.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of integrated reservoir management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about integrated reservoir management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about integrated reservoir management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating integrated reservoir management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in integrated reservoir management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning integrated reservoir management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for integrated reservoir management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on integrated reservoir management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about integrated reservoir management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in integrated reservoir management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Certificate in Offshore Production Technology: Communication and Escalation

Learning objectives

- Explain certificate in offshore production technology: communication and escalation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Production Technology: Communication and Escalation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Production Technology

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Production Technology: Communication and Escalation describes a practical part of Certificate in Offshore Production Technology. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore production technology: communication and escalation. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore production technology: communication and escalation while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore production technology: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore production technology: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore production technology: communication and escalation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore production technology: communication and escalation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore production technology: communication and escalation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore production technology: communication and escalation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore production technology: communication and escalation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore production technology: communication and escalation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore production technology: communication and escalation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore production technology: communication and escalation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore production technology: communication and escalation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore production technology: communication and escalation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Well control and barrier management

Learning objectives

- Explain well control and barrier management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Well control and barrier management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Production Technology

Teaching notes

Teaching notes

Core explanation. A barrier system prevents unintended fluid flow. Show primary and secondary barrier envelopes and the need for defined performance standards. Recognising indications, reporting promptly and following the authorised well-control programme are distinct from being certified to operate equipment.

Decision logic. Teach barrier status with evidence, not equipment names alone. An installed component may be unavailable, untested or outside its operating envelope. Barrier changes require controlled review. No live well-control drill or shut-in sequence is prescribed by this awareness content.

Worked example. A component appears on the drawing, but its required test record is missing. Treat its verified availability as unresolved.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Construct a barrier-status register from a fictional well diagram.

Model answer guide. Record function, verification, owner, limitation and escalation; do not mark an unverified barrier healthy.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Construct a barrier-status register from a fictional well diagram.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of well control and barrier management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about well control and barrier management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about well control and barrier management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating well control and barrier management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in well control and barrier management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning well control and barrier management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for well control and barrier management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on well control and barrier management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about well control and barrier management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in well control and barrier management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Offshore Production Technology: Competence Review

Learning objectives

- Explain certificate in offshore production technology: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Production Technology: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Production Technology

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Production Technology: Competence Review describes a practical part of Certificate in Offshore Production Technology. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore production technology: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore production technology: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore production technology: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore production technology: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore production technology: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore production technology: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore production technology: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore production technology: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore production technology: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore production technology: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore production technology: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore production technology: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore production technology: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore production technology: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X02 | Certificate in Flow Assurance and Production Chemistry

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Flow Assurance and Production Chemistry, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Flow Assurance and Production Chemistry.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Flow assurance

Learning objectives

- Explain flow assurance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Flow assurance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Flow Assurance and Production Chemistry

Teaching notes

Teaching notes

Core explanation. Flow assurance manages the ability to transport fluids through operating and transient conditions. Hydrates, wax, scale, corrosion and slugging can threaten performance. Explain the pressure-temperature-composition relationship qualitatively with a cooling pipeline sketch.

Decision logic. Assess startup, shutdown and restart as well as steady operation. Chemical treatment, insulation and operating strategies interact with facilities and environmental constraints. Classroom discussion does not prescribe inhibitor doses or live restart sequences.

Worked example. A pipeline flows normally when warm but cools during a long shutdown, changing restart risk.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Build a flow-assurance risk register for normal operation and shutdown.

Model answer guide. Include fluid data, thermal history, safeguards, monitoring and an authorised specialist review before restart.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Build a flow-assurance risk register for normal operation and shutdown.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of flow assurance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about flow assurance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about flow assurance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating flow assurance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in flow assurance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning flow assurance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for flow assurance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on flow assurance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about flow assurance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in flow assurance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Certificate in Flow Assurance and Production Chemistry: Risk Controls

Learning objectives

- Explain certificate in flow assurance and production chemistry: risk controls, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Flow Assurance and Production Chemistry: Risk Controls
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Flow Assurance and Production Chemistry

Teaching notes

Teaching notes

Core explanation. Certificate in Flow Assurance and Production Chemistry: Risk Controls describes a practical part of Certificate in Flow Assurance and Production Chemistry. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in flow assurance and production chemistry: risk controls. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in flow assurance and production chemistry: risk controls while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in flow assurance and production chemistry: risk controls: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in flow assurance and production chemistry: risk controls: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in flow assurance and production chemistry: risk controls?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in flow assurance and production chemistry: risk controls?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in flow assurance and production chemistry: risk controls be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in flow assurance and production chemistry: risk controls?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in flow assurance and production chemistry: risk controls?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in flow assurance and production chemistry: risk controls?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in flow assurance and production chemistry: risk controls. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in flow assurance and production chemistry: risk controls contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in flow assurance and production chemistry: risk controls?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in flow assurance and production chemistry: risk controls?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Certificate in Flow Assurance and Production Chemistry: Systems and Interfaces

Learning objectives

- Explain certificate in flow assurance and production chemistry: systems and interfaces, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Flow Assurance and Production Chemistry: Systems and Interfaces
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Flow Assurance and Production Chemistry

Teaching notes

Teaching notes

Core explanation. Certificate in Flow Assurance and Production Chemistry: Systems and Interfaces describes a practical part of Certificate in Flow Assurance and Production Chemistry. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in flow assurance and production chemistry: systems and interfaces. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in flow assurance and production chemistry: systems and interfaces while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in flow assurance and production chemistry: systems and interfaces: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in flow assurance and production chemistry: systems and interfaces: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in flow assurance and production chemistry: systems and interfaces?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in flow assurance and production chemistry: systems and interfaces?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in flow assurance and production chemistry: systems and interfaces be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in flow assurance and production chemistry: systems and interfaces?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in flow assurance and production chemistry: systems and interfaces?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in flow assurance and production chemistry: systems and interfaces?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in flow assurance and production chemistry: systems and interfaces. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in flow assurance and production chemistry: systems and interfaces contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in flow assurance and production chemistry: systems and interfaces?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in flow assurance and production chemistry: systems and interfaces?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Corrosion mechanisms and damage management

Learning objectives

- Explain corrosion mechanisms and damage management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Corrosion mechanisms and damage management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Flow Assurance and Production Chemistry

Teaching notes

Teaching notes

Core explanation. Corrosion depends on materials, fluids, temperature, environment and operating history. Internal corrosion, external marine corrosion and localised attack can require different controls. Explain general thinning versus pitting and why average thickness may hide local damage.

Decision logic. Identify credible damage mechanisms before selecting inspection or mitigation. Coatings, inhibitors, material selection and cathodic protection have different applications. Competent engineers establish acceptance criteria; classroom measurements never approve equipment for continued service.

Worked example. A plate's average thickness appears acceptable but a local pit is much deeper.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review a fictional damage map and propose a specialist inspection scope.

Model answer guide. Address local severity, mechanism, inspection coverage and operating conditions rather than average thickness alone.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review a fictional damage map and propose a specialist inspection scope.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of corrosion mechanisms and damage management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about corrosion mechanisms and damage management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about corrosion mechanisms and damage management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating corrosion mechanisms and damage management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in corrosion mechanisms and damage management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning corrosion mechanisms and damage management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for corrosion mechanisms and damage management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on corrosion mechanisms and damage management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about corrosion mechanisms and damage management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in corrosion mechanisms and damage management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Certificate in Flow Assurance and Production Chemistry: Work Planning

Learning objectives

- Explain certificate in flow assurance and production chemistry: work planning, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Flow Assurance and Production Chemistry: Work Planning
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Flow Assurance and Production Chemistry

Teaching notes

Teaching notes

Core explanation. Certificate in Flow Assurance and Production Chemistry: Work Planning describes a practical part of Certificate in Flow Assurance and Production Chemistry. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in flow assurance and production chemistry: work planning. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in flow assurance and production chemistry: work planning while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in flow assurance and production chemistry: work planning: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in flow assurance and production chemistry: work planning: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in flow assurance and production chemistry: work planning?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in flow assurance and production chemistry: work planning?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in flow assurance and production chemistry: work planning be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in flow assurance and production chemistry: work planning?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in flow assurance and production chemistry: work planning?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in flow assurance and production chemistry: work planning?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in flow assurance and production chemistry: work planning. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in flow assurance and production chemistry: work planning contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in flow assurance and production chemistry: work planning?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in flow assurance and production chemistry: work planning?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Marine monitoring and evidence quality

Learning objectives

- Explain marine monitoring and evidence quality, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Marine monitoring and evidence quality
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Flow Assurance and Production Chemistry

Teaching notes

Teaching notes

Core explanation. Monitoring tests defined questions using repeatable sampling, measurement and analysis. Explain baseline, reference locations, quality control and detection limits. A changing measurement does not establish its cause automatically.

Decision logic. Specify indicators, frequency, methods, responsibilities and action thresholds through competent review. Maintain chain of custody and calibration records. Interpret trends alongside natural variability and other activities. Avoid using unsupported universal compliance limits.

Worked example. A sample result rises after a storm at both project and reference locations.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Interpret the result and propose a proportionate follow-up.

Model answer guide. Consider regional variability, method quality and exposure pathways before attributing causation.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Interpret the result and propose a proportionate follow-up.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of marine monitoring and evidence quality?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about marine monitoring and evidence quality?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about marine monitoring and evidence quality be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating marine monitoring and evidence quality?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in marine monitoring and evidence quality?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning marine monitoring and evidence quality?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for marine monitoring and evidence quality. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on marine monitoring and evidence quality contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about marine monitoring and evidence quality?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in marine monitoring and evidence quality?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Integrated reservoir management

Learning objectives

- Explain integrated reservoir management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Integrated reservoir management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Flow Assurance and Production Chemistry

Teaching notes

Teaching notes

Core explanation. Reservoir management links surveillance, models, wells, facilities and economics to an agreed objective. Define decision triggers and data owners. A model is useful when it helps choose an action and exposes uncertainty, not simply because it has many cells.

Decision logic. Use a closed learning cycle: predict, measure, compare, diagnose and revise. History matching can be non-unique, so retain plausible alternatives and test decisions against them. Integrate subsurface and operations teams when reviewing constraints and new evidence.

Worked example. Measured water breakthrough is earlier than predicted. Review connectivity and completion assumptions before merely adjusting a curve.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a surveillance plan with three measurements and associated decision triggers.

Model answer guide. Each measurement must connect to a management choice, owner and review frequency.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a surveillance plan with three measurements and associated decision triggers.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of integrated reservoir management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about integrated reservoir management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about integrated reservoir management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating integrated reservoir management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in integrated reservoir management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning integrated reservoir management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for integrated reservoir management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on integrated reservoir management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about integrated reservoir management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in integrated reservoir management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Risk assessment and uncertainty management

Learning objectives

- Explain risk assessment and uncertainty management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Risk assessment and uncertainty management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Flow Assurance and Production Chemistry

Teaching notes

Teaching notes

Core explanation. Define the activity and potential harm, identify hazards, evaluate existing controls, then decide further controls and ownership. A risk matrix supports prioritisation but does not prove a risk is tolerable. Include affected people and changing conditions.

Decision logic. Test whether controls are present and effective. Residual risk should be reassessed after control implementation, not merely after a promise. Escalate high-consequence uncertainty for competent review. Project risk also includes schedule, cost and opportunity effects.

Worked example. A permit lists a barrier that has not yet been installed. The claimed residual risk is premature.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Complete a risk register with cause, event, consequence, control, owner and verification.

Model answer guide. Keep hazard and consequence distinct and require evidence before taking control credit.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Complete a risk register with cause, event, consequence, control, owner and verification.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of risk assessment and uncertainty management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about risk assessment and uncertainty management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about risk assessment and uncertainty management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating risk assessment and uncertainty management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in risk assessment and uncertainty management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning risk assessment and uncertainty management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for risk assessment and uncertainty management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on risk assessment and uncertainty management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about risk assessment and uncertainty management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in risk assessment and uncertainty management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Production optimisation

Learning objectives

- Explain production optimisation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Production optimisation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Flow Assurance and Production Chemistry

Teaching notes

Teaching notes

Core explanation. Production optimisation considers reservoir inflow, wellbore outflow, gathering network and facilities together. Nodal analysis examines pressure balance across the system. The best local setting may overload shared equipment or harm recovery.

Decision logic. Use constraints and marginal value to prioritise opportunities. Validate meter quality before changing settings. Changes require operating review and controlled implementation; the classroom does not authorise adjustments to live wells or control systems.

Worked example. Opening one fictional well increases its rate but exceeds separator capacity, reducing total stable production.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Identify the system bottleneck and compare two constrained operating cases.

Model answer guide. Optimise total safe value and honour facility limits, rather than maximising each well independently.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Identify the system bottleneck and compare two constrained operating cases.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of production optimisation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about production optimisation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about production optimisation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating production optimisation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in production optimisation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning production optimisation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for production optimisation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on production optimisation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about production optimisation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in production optimisation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Flow Assurance and Production Chemistry: Competence Review

Learning objectives

- Explain certificate in flow assurance and production chemistry: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Flow Assurance and Production Chemistry: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Flow Assurance and Production Chemistry

Teaching notes

Teaching notes

Core explanation. Certificate in Flow Assurance and Production Chemistry: Competence Review describes a practical part of Certificate in Flow Assurance and Production Chemistry. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in flow assurance and production chemistry: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in flow assurance and production chemistry: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in flow assurance and production chemistry: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in flow assurance and production chemistry: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in flow assurance and production chemistry: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in flow assurance and production chemistry: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in flow assurance and production chemistry: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in flow assurance and production chemistry: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in flow assurance and production chemistry: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in flow assurance and production chemistry: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in flow assurance and production chemistry: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in flow assurance and production chemistry: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in flow assurance and production chemistry: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in flow assurance and production chemistry: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X03 | Certificate in Pipeline Engineering and Integrity

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Pipeline Engineering and Integrity, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Pipeline Engineering and Integrity.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Pipeline integrity

Learning objectives

- Explain pipeline integrity, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Pipeline integrity
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Pipeline Engineering and Integrity

Teaching notes

Teaching notes

Core explanation. Pipeline integrity links design, materials, operation, corrosion control, inspection, damage assessment and repair. Threats include corrosion, fatigue, third-party damage and geohazards. Explain how service and environment influence the threat register.

Decision logic. Use condition evidence and engineering assessment to prioritise action. A pressure rating does not address all degradation or installation damage. All operating limits, repair decisions and fitness-for-service conclusions require competent approval.

Worked example. A route section crosses unstable seabed even though corrosion readings are low.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a pipeline threat register including non-corrosion threats.

Model answer guide. Include route movement, spans, fatigue, material condition and monitoring limitations.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a pipeline threat register including non-corrosion threats.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of pipeline integrity?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about pipeline integrity?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about pipeline integrity be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating pipeline integrity?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in pipeline integrity?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning pipeline integrity?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for pipeline integrity. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on pipeline integrity contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about pipeline integrity?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in pipeline integrity?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Certificate in Pipeline Engineering and Integrity: Risk Controls

Learning objectives

- Explain certificate in pipeline engineering and integrity: risk controls, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Pipeline Engineering and Integrity: Risk Controls
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Pipeline Engineering and Integrity

Teaching notes

Teaching notes

Core explanation. Certificate in Pipeline Engineering and Integrity: Risk Controls describes a practical part of Certificate in Pipeline Engineering and Integrity. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in pipeline engineering and integrity: risk controls. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in pipeline engineering and integrity: risk controls while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in pipeline engineering and integrity: risk controls: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in pipeline engineering and integrity: risk controls: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in pipeline engineering and integrity: risk controls?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in pipeline engineering and integrity: risk controls?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in pipeline engineering and integrity: risk controls be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in pipeline engineering and integrity: risk controls?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in pipeline engineering and integrity: risk controls?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in pipeline engineering and integrity: risk controls?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in pipeline engineering and integrity: risk controls. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in pipeline engineering and integrity: risk controls contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in pipeline engineering and integrity: risk controls?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in pipeline engineering and integrity: risk controls?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Corrosion mechanisms and damage management

Learning objectives

- Explain corrosion mechanisms and damage management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Corrosion mechanisms and damage management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Pipeline Engineering and Integrity

Teaching notes

Teaching notes

Core explanation. Corrosion depends on materials, fluids, temperature, environment and operating history. Internal corrosion, external marine corrosion and localised attack can require different controls. Explain general thinning versus pitting and why average thickness may hide local damage.

Decision logic. Identify credible damage mechanisms before selecting inspection or mitigation. Coatings, inhibitors, material selection and cathodic protection have different applications. Competent engineers establish acceptance criteria; classroom measurements never approve equipment for continued service.

Worked example. A plate's average thickness appears acceptable but a local pit is much deeper.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review a fictional damage map and propose a specialist inspection scope.

Model answer guide. Address local severity, mechanism, inspection coverage and operating conditions rather than average thickness alone.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review a fictional damage map and propose a specialist inspection scope.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of corrosion mechanisms and damage management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about corrosion mechanisms and damage management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about corrosion mechanisms and damage management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating corrosion mechanisms and damage management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in corrosion mechanisms and damage management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning corrosion mechanisms and damage management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for corrosion mechanisms and damage management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on corrosion mechanisms and damage management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about corrosion mechanisms and damage management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in corrosion mechanisms and damage management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Inspection planning and technologies

Learning objectives

- Explain inspection planning and technologies, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Inspection planning and technologies
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Pipeline Engineering and Integrity

Teaching notes

Teaching notes

Core explanation. Inspection seeks evidence of condition and degradation using methods fit for the expected damage. Coverage, access, resolution and operator competence affect confidence. Distinguish visual survey, thickness measurement and detailed examination.

Decision logic. Start with the question being answered, then select method and locations. A clean report from limited coverage does not prove the whole asset is defect-free. Record limitations, traceability, findings and required engineering disposition.

Worked example. An external visual survey cannot establish internal wall thickness beneath insulation.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Design an inspection brief with objective, coverage, method and reporting limits.

Model answer guide. Match technique to mechanism and state what cannot be concluded.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Design an inspection brief with objective, coverage, method and reporting limits.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of inspection planning and technologies?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about inspection planning and technologies?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about inspection planning and technologies be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating inspection planning and technologies?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in inspection planning and technologies?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning inspection planning and technologies?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for inspection planning and technologies. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on inspection planning and technologies contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about inspection planning and technologies?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in inspection planning and technologies?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Certificate in Pipeline Engineering and Integrity: Work Planning

Learning objectives

- Explain certificate in pipeline engineering and integrity: work planning, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Pipeline Engineering and Integrity: Work Planning
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Pipeline Engineering and Integrity

Teaching notes

Teaching notes

Core explanation. Certificate in Pipeline Engineering and Integrity: Work Planning describes a practical part of Certificate in Pipeline Engineering and Integrity. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in pipeline engineering and integrity: work planning. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in pipeline engineering and integrity: work planning while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in pipeline engineering and integrity: work planning: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in pipeline engineering and integrity: work planning: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in pipeline engineering and integrity: work planning?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in pipeline engineering and integrity: work planning?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in pipeline engineering and integrity: work planning be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in pipeline engineering and integrity: work planning?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in pipeline engineering and integrity: work planning?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in pipeline engineering and integrity: work planning?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in pipeline engineering and integrity: work planning. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in pipeline engineering and integrity: work planning contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in pipeline engineering and integrity: work planning?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in pipeline engineering and integrity: work planning?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Risk based inspection

Learning objectives

- Explain risk based inspection, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Risk based inspection
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Pipeline Engineering and Integrity

Teaching notes

Teaching notes

Core explanation. RBI combines likelihood and consequence of failure to prioritise inspection and other actions. It relies on credible damage mechanisms, operating data and consequence modelling. High risk does not automatically mean only more inspection is needed.

Decision logic. Document assumptions and uncertainty and validate findings with competent teams. Mitigation may require operational change, repair or replacement. The course illustrates RBI logic without reproducing a proprietary standard or approving inspection intervals.

Worked example. A low-likelihood failure has severe consequences and therefore remains a priority for assurance.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Rank three fictional assets and explain the influence of consequence and uncertainty.

Model answer guide. Credit transparent reasoning and alternative controls; reject ranking only by historical failure count.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Rank three fictional assets and explain the influence of consequence and uncertainty.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of risk based inspection?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about risk based inspection?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about risk based inspection be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating risk based inspection?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in risk based inspection?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning risk based inspection?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for risk based inspection. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on risk based inspection contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about risk based inspection?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in risk based inspection?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Certificate in Pipeline Engineering and Integrity: Applied Case

Learning objectives

- Explain certificate in pipeline engineering and integrity: applied case, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Pipeline Engineering and Integrity: Applied Case
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Pipeline Engineering and Integrity

Teaching notes

Teaching notes

Core explanation. Certificate in Pipeline Engineering and Integrity: Applied Case describes a practical part of Certificate in Pipeline Engineering and Integrity. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in pipeline engineering and integrity: applied case. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in pipeline engineering and integrity: applied case while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in pipeline engineering and integrity: applied case: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in pipeline engineering and integrity: applied case: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in pipeline engineering and integrity: applied case?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in pipeline engineering and integrity: applied case?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in pipeline engineering and integrity: applied case be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in pipeline engineering and integrity: applied case?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in pipeline engineering and integrity: applied case?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in pipeline engineering and integrity: applied case?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in pipeline engineering and integrity: applied case. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in pipeline engineering and integrity: applied case contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in pipeline engineering and integrity: applied case?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in pipeline engineering and integrity: applied case?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Emergency preparedness and command

Learning objectives

- Explain emergency preparedness and command, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Emergency preparedness and command
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Pipeline Engineering and Integrity

Teaching notes

Teaching notes

Core explanation. Emergency planning identifies credible scenarios, warning, command, communications, muster, evacuation, medical support and external interfaces. Responsibilities and fallback communications should be understood before an event. Awareness differs from emergency-team qualification.

Decision logic. Use tabletop exercises with timed injects, observer records and debrief actions. Test loss of communications or unavailable resources. Never simulate an actual distress call or activate real emergency equipment without authorised arrangements.

Worked example. A fictional offshore incident interrupts the primary communication link during a weather restriction.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Run a tabletop with incident controller, operations, logistics and communications roles.

Model answer guide. Prioritise people, establish command, verify information, use planned backup channels and document decisions.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Run a tabletop with incident controller, operations, logistics and communications roles.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of emergency preparedness and command?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about emergency preparedness and command?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about emergency preparedness and command be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating emergency preparedness and command?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in emergency preparedness and command?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning emergency preparedness and command?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for emergency preparedness and command. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on emergency preparedness and command contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about emergency preparedness and command?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in emergency preparedness and command?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Certificate in Pipeline Engineering and Integrity: Knowledge Check

Learning objectives

- Explain certificate in pipeline engineering and integrity: knowledge check, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Pipeline Engineering and Integrity: Knowledge Check
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Pipeline Engineering and Integrity

Teaching notes

Teaching notes

Core explanation. Certificate in Pipeline Engineering and Integrity: Knowledge Check describes a practical part of Certificate in Pipeline Engineering and Integrity. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in pipeline engineering and integrity: knowledge check. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in pipeline engineering and integrity: knowledge check while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in pipeline engineering and integrity: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in pipeline engineering and integrity: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in pipeline engineering and integrity: knowledge check?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in pipeline engineering and integrity: knowledge check?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in pipeline engineering and integrity: knowledge check be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in pipeline engineering and integrity: knowledge check?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in pipeline engineering and integrity: knowledge check?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in pipeline engineering and integrity: knowledge check?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in pipeline engineering and integrity: knowledge check. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in pipeline engineering and integrity: knowledge check contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in pipeline engineering and integrity: knowledge check?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in pipeline engineering and integrity: knowledge check?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Pipeline Engineering and Integrity: Competence Review

Learning objectives

- Explain certificate in pipeline engineering and integrity: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Pipeline Engineering and Integrity: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Pipeline Engineering and Integrity

Teaching notes

Teaching notes

Core explanation. Certificate in Pipeline Engineering and Integrity: Competence Review describes a practical part of Certificate in Pipeline Engineering and Integrity. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in pipeline engineering and integrity: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in pipeline engineering and integrity: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in pipeline engineering and integrity: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in pipeline engineering and integrity: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in pipeline engineering and integrity: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in pipeline engineering and integrity: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in pipeline engineering and integrity: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in pipeline engineering and integrity: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in pipeline engineering and integrity: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in pipeline engineering and integrity: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in pipeline engineering and integrity: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in pipeline engineering and integrity: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in pipeline engineering and integrity: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in pipeline engineering and integrity: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X04 | Certificate in Offshore Commissioning and Start-up

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Offshore Commissioning and Start-up, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Offshore Commissioning and Start-up.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Construction hook up and commissioning

Learning objectives

- Explain construction hook up and commissioning, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Construction hook up and commissioning
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Commissioning and Start-up

Teaching notes

Teaching notes

Core explanation. Mechanical completion confirms construction against defined scope; commissioning demonstrates functional readiness; startup introduces operational service under approved controls. These milestones require different evidence. Introduce systemisation, punch lists and handover boundaries.

Decision logic. Readiness is demonstrated through test records, resolved defects, procedures, trained personnel and accepted interfaces. Schedule pressure does not justify silently transferring incomplete systems. Brownfield work must address interactions with operating equipment and simultaneous activities.

Worked example. A system is mechanically complete but its cause-and-effect tests remain outstanding.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Classify a fictional punch list by startup consequence and propose handover conditions.

Model answer guide. Identify safety-critical tests and documented acceptance; mechanical completion alone is insufficient.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Classify a fictional punch list by startup consequence and propose handover conditions.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of construction hook up and commissioning?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about construction hook up and commissioning?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about construction hook up and commissioning be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating construction hook up and commissioning?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in construction hook up and commissioning?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning construction hook up and commissioning?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for construction hook up and commissioning. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on construction hook up and commissioning contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about construction hook up and commissioning?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in construction hook up and commissioning?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Production readiness and marine assurance

Learning objectives

- Explain production readiness and marine assurance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Production readiness and marine assurance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Commissioning and Start-up

Teaching notes

Teaching notes

Core explanation. Operational readiness brings people, procedures, equipment, spares, assurance and emergency arrangements together before service. Marine assurance addresses vessel capability, condition and interfaces for the intended task. Treat readiness as evidence-based acceptance.

Decision logic. Use independent challenge and clear ownership of exceptions. Operational teams must accept the asset with known limitations and an approved response. A dashboard with all green cells is unreliable if supporting records are missing or outdated.

Worked example. A readiness review shows trained staff but no tested spare-parts supply route for a critical pump.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a readiness dossier and a conditions-to-close register.

Model answer guide. Include maintenance, spares, competence, emergency drills and marine interfaces with accountable owners.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a readiness dossier and a conditions-to-close register.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of production readiness and marine assurance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about production readiness and marine assurance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about production readiness and marine assurance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating production readiness and marine assurance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in production readiness and marine assurance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning production readiness and marine assurance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for production readiness and marine assurance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on production readiness and marine assurance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about production readiness and marine assurance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in production readiness and marine assurance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Process safety fundamentals

Learning objectives

- Explain process safety fundamentals, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Process safety fundamentals
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Commissioning and Start-up

Teaching notes

Teaching notes

Core explanation. Process safety prevents major loss-of-containment and energy-release events. Personal injury rates do not measure every major-accident risk. Explain hazard, initiating event, preventive barriers, mitigative barriers and consequences using a bowtie.

Decision logic. Assess barrier performance standards, degradation and independent assurance. HAZID, HAZOP and other reviews have different purposes and need competent facilitation. Do not call a classroom checklist a certified safety study. Track temporary changes and overdue critical actions.

Worked example. An asset reports no slips but has several overdue safety-critical tests; major-accident assurance remains weak.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Build a bowtie for a fictional separator loss of containment.

Model answer guide. Separate prevention and mitigation and assign barrier evidence, owner and degradation response.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Build a bowtie for a fictional separator loss of containment.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of process safety fundamentals?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about process safety fundamentals?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about process safety fundamentals be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating process safety fundamentals?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in process safety fundamentals?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning process safety fundamentals?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for process safety fundamentals. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on process safety fundamentals contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about process safety fundamentals?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in process safety fundamentals?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Umbilicals and subsea control systems

Learning objectives

- Explain umbilicals and subsea control systems, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Umbilicals and subsea control systems
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Commissioning and Start-up

Teaching notes

Teaching notes

Core explanation. Umbilicals transmit combinations of power, communications, hydraulic service and chemicals. Subsea controls command and monitor equipment. Use a signal-and-energy diagram to separate commands, feedback and physical actuation.

Decision logic. Control philosophy must address loss of power, communications and hydraulic supply, plus the intended safe response. Check compatibility and redundancy across surface and subsea equipment. A command acknowledgement does not necessarily prove final valve position.

Worked example. A control command is received, but independent position feedback disagrees. Investigate rather than assume successful actuation.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Trace one command path and identify three failure points and their indication.

Model answer guide. Include surface control, communication, power or hydraulic supply and feedback; distinguish received command from achieved state.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Trace one command path and identify three failure points and their indication.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of umbilicals and subsea control systems?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about umbilicals and subsea control systems?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about umbilicals and subsea control systems be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating umbilicals and subsea control systems?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in umbilicals and subsea control systems?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning umbilicals and subsea control systems?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for umbilicals and subsea control systems. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on umbilicals and subsea control systems contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about umbilicals and subsea control systems?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in umbilicals and subsea control systems?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Permit to work isolation and SIMOPS

Learning objectives

- Explain permit to work isolation and simops, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Permit to work isolation and SIMOPS
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Commissioning and Start-up

Teaching notes

Teaching notes

Core explanation. A permit coordinates specified work within defined conditions and time. It complements risk assessment, isolation, competence and supervision. SIMOPS review considers interactions between tasks that may be safe individually but unsafe together.

Decision logic. Walk through planning, authorisation, briefing, verification, suspension and handback conceptually. A signature does not establish a safe condition. Changes in scope, personnel or environment require review under the site system. Never reuse a classroom permit as operational authorisation.

Worked example. Hot work and a nearby hydrocarbon transfer are proposed concurrently. Their interaction needs coordinated review.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review two fictional permits and identify interface conflicts and suspension triggers.

Model answer guide. Include shared hazards, isolation boundaries, authority, communication and revalidation after change.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review two fictional permits and identify interface conflicts and suspension triggers.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of permit to work isolation and simops?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about permit to work isolation and simops?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about permit to work isolation and simops be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating permit to work isolation and simops?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in permit to work isolation and simops?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning permit to work isolation and simops?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for permit to work isolation and simops. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on permit to work isolation and simops contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about permit to work isolation and simops?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in permit to work isolation and simops?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Certificate in Offshore Commissioning and Start-up: Data and Performance

Learning objectives

- Explain certificate in offshore commissioning and start-up: data and performance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Commissioning and Start-up: Data and Performance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Commissioning and Start-up

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Commissioning and Start-up: Data and Performance describes a practical part of Certificate in Offshore Commissioning and Start-up. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore commissioning and start-up: data and performance. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore commissioning and start-up: data and performance while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore commissioning and start-up: data and performance: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore commissioning and start-up: data and performance: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore commissioning and start-up: data and performance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore commissioning and start-up: data and performance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore commissioning and start-up: data and performance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore commissioning and start-up: data and performance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore commissioning and start-up: data and performance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore commissioning and start-up: data and performance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore commissioning and start-up: data and performance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore commissioning and start-up: data and performance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore commissioning and start-up: data and performance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore commissioning and start-up: data and performance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Certificate in Offshore Commissioning and Start-up: Applied Case

Learning objectives

- Explain certificate in offshore commissioning and start-up: applied case, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Commissioning and Start-up: Applied Case
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Commissioning and Start-up

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Commissioning and Start-up: Applied Case describes a practical part of Certificate in Offshore Commissioning and Start-up. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore commissioning and start-up: applied case. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore commissioning and start-up: applied case while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore commissioning and start-up: applied case: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore commissioning and start-up: applied case: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore commissioning and start-up: applied case?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore commissioning and start-up: applied case?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore commissioning and start-up: applied case be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore commissioning and start-up: applied case?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore commissioning and start-up: applied case?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore commissioning and start-up: applied case?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore commissioning and start-up: applied case. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore commissioning and start-up: applied case contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore commissioning and start-up: applied case?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore commissioning and start-up: applied case?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Incident investigation and learning

Learning objectives

- Explain incident investigation and learning, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Incident investigation and learning
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Commissioning and Start-up

Teaching notes

Teaching notes

Core explanation. An investigation establishes what happened, why controls failed and how recurrence can be prevented. Preserve evidence, protect people and separate verified facts from assumptions. Near misses can reveal major weaknesses without actual harm.

Decision logic. Use a timeline and causal analysis to explore technical, human and organisational contributors. Avoid premature blame and unsupported conclusions. Actions should address causes, have accountable owners and be checked for effectiveness. Reporting follows applicable site and legal requirements.

Worked example. A dropped tool caused no injury, but exclusion-zone and securing controls were ineffective.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Analyse a fictional near miss and propose three causal actions.

Model answer guide. Include physical prevention, work-system improvements and verification, rather than retraining alone.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Analyse a fictional near miss and propose three causal actions.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of incident investigation and learning?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about incident investigation and learning?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about incident investigation and learning be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating incident investigation and learning?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in incident investigation and learning?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning incident investigation and learning?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for incident investigation and learning. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on incident investigation and learning contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about incident investigation and learning?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in incident investigation and learning?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Project quality and acceptance

Learning objectives

- Explain project quality and acceptance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Project quality and acceptance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Commissioning and Start-up

Teaching notes

Teaching notes

Core explanation. Quality planning defines requirements, methods and evidence for conformance. Assurance evaluates the system; control checks outputs. Inspection and test plans use hold and witness points appropriate to consequence and scope.

Decision logic. Trace requirements through supplier records, fabrication, testing and handover. A test result must identify what was tested and against which criterion. Do not invent acceptance limits from generic training notes. Nonconformities require controlled disposition.

Worked example. A certificate reports a successful test but omits item identification and the acceptance basis.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review the fictional dossier and write a nonconformity and closure requirement.

Model answer guide. Require traceable identity, approved criteria, valid method and authorised disposition.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review the fictional dossier and write a nonconformity and closure requirement.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of project quality and acceptance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about project quality and acceptance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about project quality and acceptance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating project quality and acceptance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in project quality and acceptance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning project quality and acceptance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for project quality and acceptance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on project quality and acceptance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about project quality and acceptance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in project quality and acceptance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Offshore Commissioning and Start-up: Competence Review

Learning objectives

- Explain certificate in offshore commissioning and start-up: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Commissioning and Start-up: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Commissioning and Start-up

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Commissioning and Start-up: Competence Review describes a practical part of Certificate in Offshore Commissioning and Start-up. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore commissioning and start-up: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore commissioning and start-up: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore commissioning and start-up: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore commissioning and start-up: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore commissioning and start-up: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore commissioning and start-up: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore commissioning and start-up: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore commissioning and start-up: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore commissioning and start-up: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore commissioning and start-up: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore commissioning and start-up: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore commissioning and start-up: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore commissioning and start-up: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore commissioning and start-up: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X05 | Certificate in Natural Gas Processing and LNG Fundamentals

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Natural Gas Processing and LNG Fundamentals, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Natural Gas Processing and LNG Fundamentals.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Atmospheric testing principles

Learning objectives

- Explain atmospheric testing principles, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Atmospheric testing principles
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Natural Gas Processing and LNG Fundamentals

Teaching notes

Teaching notes

Core explanation. Atmospheric testing considers oxygen, flammable and toxic hazards with instruments suitable for the task. Calibration, functional checks, sampling location, response time and sensor limitations affect validity. A reading is evidence at a place and time, not a permanent guarantee.

Decision logic. Use manufacturer-approved training and site procedures for actual instrument operation and acceptance limits. Teach why an unsuitable or failed sensor makes a reading unreliable. Do not prescribe entry thresholds or authorise testing competence through online questions alone.

Worked example. A detector displays zero but its required functional check failed. Zero cannot be trusted as proof of safe atmosphere.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Evaluate fictional detector records and decide whether evidence is fit for use.

Model answer guide. Reject unreliable evidence, withdraw the instrument according to procedure and escalate for approved replacement or review.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Evaluate fictional detector records and decide whether evidence is fit for use.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of atmospheric testing principles?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about atmospheric testing principles?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about atmospheric testing principles be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating atmospheric testing principles?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in atmospheric testing principles?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning atmospheric testing principles?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for atmospheric testing principles. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on atmospheric testing principles contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about atmospheric testing principles?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in atmospheric testing principles?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Separation gas processing and utilities

Learning objectives

- Explain separation gas processing and utilities, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Separation gas processing and utilities
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Natural Gas Processing and LNG Fundamentals

Teaching notes

Teaching notes

Core explanation. Production fluids are separated into oil, gas and water streams before further treatment. Gas compression, dehydration, oil stabilisation and utilities support product specifications and safe operation. Explain process flow diagrams before introducing instrument-level drawings.

Decision logic. Mass balance links input, output and accumulation. A bottleneck in power, cooling or compression can limit oil production. Product quality, emissions and integrity constrain throughput. Actual settings and alarm responses must follow approved procedures.

Worked example. A separator receives 100 mass units/hour; 55 leave as oil, 20 as gas and 25 as water, with no accumulation.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Reconcile a second balance with a missing stream and discuss measurement uncertainty.

Model answer guide. Total output plus accumulation must equal input; unexplained imbalance requires data checking.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Reconcile a second balance with a missing stream and discuss measurement uncertainty.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of separation gas processing and utilities?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about separation gas processing and utilities?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about separation gas processing and utilities be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating separation gas processing and utilities?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in separation gas processing and utilities?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning separation gas processing and utilities?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for separation gas processing and utilities. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on separation gas processing and utilities contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about separation gas processing and utilities?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in separation gas processing and utilities?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Flow assurance

Learning objectives

- Explain flow assurance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Flow assurance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Natural Gas Processing and LNG Fundamentals

Teaching notes

Teaching notes

Core explanation. Flow assurance manages the ability to transport fluids through operating and transient conditions. Hydrates, wax, scale, corrosion and slugging can threaten performance. Explain the pressure-temperature-composition relationship qualitatively with a cooling pipeline sketch.

Decision logic. Assess startup, shutdown and restart as well as steady operation. Chemical treatment, insulation and operating strategies interact with facilities and environmental constraints. Classroom discussion does not prescribe inhibitor doses or live restart sequences.

Worked example. A pipeline flows normally when warm but cools during a long shutdown, changing restart risk.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Build a flow-assurance risk register for normal operation and shutdown.

Model answer guide. Include fluid data, thermal history, safeguards, monitoring and an authorised specialist review before restart.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Build a flow-assurance risk register for normal operation and shutdown.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of flow assurance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about flow assurance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about flow assurance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating flow assurance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in flow assurance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning flow assurance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for flow assurance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on flow assurance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about flow assurance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in flow assurance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Certificate in Natural Gas Processing and LNG Fundamentals: Evidence and Decision Gates

Learning objectives

- Explain certificate in natural gas processing and lng fundamentals: evidence and decision gates, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Natural Gas Processing and LNG Fundamentals: Evidence and Decision Gates
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Natural Gas Processing and LNG Fundamentals

Teaching notes

Teaching notes

Core explanation. Certificate in Natural Gas Processing and LNG Fundamentals: Evidence and Decision Gates describes a practical part of Certificate in Natural Gas Processing and LNG Fundamentals. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in natural gas processing and lng fundamentals: evidence and decision gates. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in natural gas processing and lng fundamentals: evidence and decision gates while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in natural gas processing and lng fundamentals: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in natural gas processing and lng fundamentals: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in natural gas processing and lng fundamentals: evidence and decision gates?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in natural gas processing and lng fundamentals: evidence and decision gates?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in natural gas processing and lng fundamentals: evidence and decision gates be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in natural gas processing and lng fundamentals: evidence and decision gates?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in natural gas processing and lng fundamentals: evidence and decision gates?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in natural gas processing and lng fundamentals: evidence and decision gates?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in natural gas processing and lng fundamentals: evidence and decision gates. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in natural gas processing and lng fundamentals: evidence and decision gates contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in natural gas processing and lng fundamentals: evidence and decision gates?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in natural gas processing and lng fundamentals: evidence and decision gates?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Crude oil quality and assay interpretation

Learning objectives

- Explain crude oil quality and assay interpretation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Crude oil quality and assay interpretation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Natural Gas Processing and LNG Fundamentals

Teaching notes

Teaching notes

Core explanation. Crude properties include density, sulfur, acidity, metals, salt, water and distillation behaviour. API gravity is a density scale, not a complete quality grade. Explain how crude assay and sampling representativeness affect refinery fit and valuation.

Decision logic. A light crude can still present processing or materials challenges. Compare whole-crude properties with fraction yields and contaminants. Distinguish a laboratory result, a contractual specification and a refinery's acceptable feed envelope.

Worked example. Two hypothetical crudes have similar API gravity but very different sulfur and metals contents.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Compare the two fictional assays and list additional data needed for refinery selection.

Model answer guide. Include contaminant management, fraction yields, blending and sampling quality; avoid ranking by API gravity alone.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Compare the two fictional assays and list additional data needed for refinery selection.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of crude oil quality and assay interpretation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about crude oil quality and assay interpretation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about crude oil quality and assay interpretation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating crude oil quality and assay interpretation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in crude oil quality and assay interpretation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning crude oil quality and assay interpretation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for crude oil quality and assay interpretation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on crude oil quality and assay interpretation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about crude oil quality and assay interpretation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in crude oil quality and assay interpretation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Global petroleum markets and price formation

Learning objectives

- Explain global petroleum markets and price formation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Global petroleum markets and price formation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Natural Gas Processing and LNG Fundamentals

Teaching notes

Teaching notes

Core explanation. Crude markets connect producers, traders, refiners and transport providers. Prices often reference benchmarks adjusted for quality, location and contract terms. OPEC is a producers' organisation, not a buyer qualification or an assurance of payment.

Decision logic. Separate physical delivery, price exposure and credit exposure. A high headline price can be offset by freight, quality discounts, finance or default risk. No company is labelled reliable without current due diligence and an approved transaction basis.

Worked example. Offer A is USD 75/barrel with USD 5 freight; offer B is USD 73 with USD 1 freight, before other terms.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Compare simplified netbacks and identify non-price checks.

Model answer guide. A gives 70 and B gives 72 USD/barrel; check credit, delivery, sanctions and quality terms before selection.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Compare simplified netbacks and identify non-price checks.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of global petroleum markets and price formation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about global petroleum markets and price formation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about global petroleum markets and price formation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating global petroleum markets and price formation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in global petroleum markets and price formation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning global petroleum markets and price formation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for global petroleum markets and price formation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on global petroleum markets and price formation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about global petroleum markets and price formation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in global petroleum markets and price formation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Contract strategy and risk allocation

Learning objectives

- Explain contract strategy and risk allocation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Contract strategy and risk allocation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Natural Gas Processing and LNG Fundamentals

Teaching notes

Teaching notes

Core explanation. Contracts define scope, deliverables, payment, acceptance, change and remedies. Lump sum, reimbursable and target-cost arrangements allocate uncertainty differently. Begin with scope maturity and market capability rather than choosing a familiar contract label.

Decision logic. Risk should be allocated to parties able to manage it, with realistic pricing and assurance. Unclear interfaces create disputes despite detailed clauses. Actual indemnity, liability, insurance and governing-law terms require qualified legal and commercial review.

Worked example. A supplier prices an undefined offshore interface as an exclusion; the owner's total risk remains unresolved.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Draft a scope and interface schedule for a fictional package.

Model answer guide. Include deliverables, acceptance evidence, owner interfaces, change control and exclusions.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Draft a scope and interface schedule for a fictional package.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of contract strategy and risk allocation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about contract strategy and risk allocation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about contract strategy and risk allocation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating contract strategy and risk allocation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in contract strategy and risk allocation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning contract strategy and risk allocation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for contract strategy and risk allocation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on contract strategy and risk allocation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about contract strategy and risk allocation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in contract strategy and risk allocation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Certificate in Natural Gas Processing and LNG Fundamentals: Communication and Escalation

Learning objectives

- Explain certificate in natural gas processing and lng fundamentals: communication and escalation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Natural Gas Processing and LNG Fundamentals: Communication and Escalation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Natural Gas Processing and LNG Fundamentals

Teaching notes

Teaching notes

Core explanation. Certificate in Natural Gas Processing and LNG Fundamentals: Communication and Escalation describes a practical part of Certificate in Natural Gas Processing and LNG Fundamentals. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in natural gas processing and lng fundamentals: communication and escalation. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in natural gas processing and lng fundamentals: communication and escalation while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in natural gas processing and lng fundamentals: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in natural gas processing and lng fundamentals: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in natural gas processing and lng fundamentals: communication and escalation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in natural gas processing and lng fundamentals: communication and escalation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in natural gas processing and lng fundamentals: communication and escalation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in natural gas processing and lng fundamentals: communication and escalation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in natural gas processing and lng fundamentals: communication and escalation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in natural gas processing and lng fundamentals: communication and escalation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in natural gas processing and lng fundamentals: communication and escalation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in natural gas processing and lng fundamentals: communication and escalation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in natural gas processing and lng fundamentals: communication and escalation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in natural gas processing and lng fundamentals: communication and escalation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Petroleum economics overview

Learning objectives

- Explain petroleum economics overview, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Petroleum economics overview
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Natural Gas Processing and LNG Fundamentals

Teaching notes

Teaching notes

Core explanation. Economics translates technical scenarios into cash-flow consequences. Define decision alternatives and the perspective first, then estimate volume, timing, realised prices, costs, fiscal payments and closure. Compare value, affordability and exposure together.

Decision logic. Use transparent assumptions with units and source dates. A model's arithmetic can be correct while its development assumptions are implausible. Separate geological uncertainty, engineering uncertainty and market risk, and show which could reverse the decision.

Worked example. Two fictional projects have equal undiscounted cash surplus but one receives cash five years later.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Explain which may have greater present value and what additional information is required.

Model answer guide. Earlier comparable cash usually has greater present value at positive discount rates; require timing and risk details.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Explain which may have greater present value and what additional information is required.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of petroleum economics overview?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about petroleum economics overview?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about petroleum economics overview be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating petroleum economics overview?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in petroleum economics overview?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning petroleum economics overview?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for petroleum economics overview. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on petroleum economics overview contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about petroleum economics overview?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in petroleum economics overview?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Natural Gas Processing and LNG Fundamentals: Competence Review

Learning objectives

- Explain certificate in natural gas processing and lng fundamentals: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Natural Gas Processing and LNG Fundamentals: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Natural Gas Processing and LNG Fundamentals

Teaching notes

Teaching notes

Core explanation. Certificate in Natural Gas Processing and LNG Fundamentals: Competence Review describes a practical part of Certificate in Natural Gas Processing and LNG Fundamentals. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in natural gas processing and lng fundamentals: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in natural gas processing and lng fundamentals: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in natural gas processing and lng fundamentals: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in natural gas processing and lng fundamentals: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in natural gas processing and lng fundamentals: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in natural gas processing and lng fundamentals: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in natural gas processing and lng fundamentals: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in natural gas processing and lng fundamentals: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in natural gas processing and lng fundamentals: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in natural gas processing and lng fundamentals: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in natural gas processing and lng fundamentals: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in natural gas processing and lng fundamentals: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in natural gas processing and lng fundamentals: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in natural gas processing and lng fundamentals: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X06 | Certificate in Well Integrity Management

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Well Integrity Management, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Well Integrity Management.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Well control and barrier management

Learning objectives

- Explain well control and barrier management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Well control and barrier management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Well Integrity Management

Teaching notes

Teaching notes

Core explanation. A barrier system prevents unintended fluid flow. Show primary and secondary barrier envelopes and the need for defined performance standards. Recognising indications, reporting promptly and following the authorised well-control programme are distinct from being certified to operate equipment.

Decision logic. Teach barrier status with evidence, not equipment names alone. An installed component may be unavailable, untested or outside its operating envelope. Barrier changes require controlled review. No live well-control drill or shut-in sequence is prescribed by this awareness content.

Worked example. A component appears on the drawing, but its required test record is missing. Treat its verified availability as unresolved.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Construct a barrier-status register from a fictional well diagram.

Model answer guide. Record function, verification, owner, limitation and escalation; do not mark an unverified barrier healthy.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Construct a barrier-status register from a fictional well diagram.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of well control and barrier management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about well control and barrier management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about well control and barrier management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating well control and barrier management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in well control and barrier management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning well control and barrier management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for well control and barrier management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on well control and barrier management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about well control and barrier management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in well control and barrier management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Well architecture and drilling systems

Learning objectives

- Explain well architecture and drilling systems, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Well architecture and drilling systems
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Well Integrity Management

Teaching notes

Teaching notes

Core explanation. A well connects the reservoir to the surface through a designed sequence of hole sections, casing and barriers. Explain measured depth versus true vertical depth, wellhead functions and interfaces with rig, marine riser and subsea equipment.

Decision logic. Well design starts with reservoir objectives, pressures, temperature, hazards and data uncertainty. Casing depth and equipment ratings require engineering calculations and independent review. This course uses diagrams and educational calculations, never an executable drilling programme.

Worked example. A deviated well has greater measured depth than vertical depth; fluid hydrostatic head relates to vertical depth.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Label a fictional well schematic and list five missing design inputs.

Model answer guide. Include pore pressure, fracture limits, temperature, geology and service conditions; distinguish equipment identification from design approval.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Label a fictional well schematic and list five missing design inputs.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of well architecture and drilling systems?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about well architecture and drilling systems?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about well architecture and drilling systems be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating well architecture and drilling systems?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in well architecture and drilling systems?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning well architecture and drilling systems?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for well architecture and drilling systems. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on well architecture and drilling systems contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about well architecture and drilling systems?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in well architecture and drilling systems?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Casing and cementing

Learning objectives

- Explain casing and cementing, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Casing and cementing
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Well Integrity Management

Teaching notes

Teaching notes

Core explanation. Casing supports the borehole and isolates formations; cement contributes to zonal isolation and structural support. Explain shoe, annulus, centralisation and displacement using a cutaway diagram. Distinguish design intent from evidence that a barrier has actually been established.

Decision logic. Assess cement placement uncertainty, contamination, losses and verification data together. Pressure tests and logs answer different questions and must be interpreted within an approved programme. Do not provide generic acceptance pressures or operational instructions that override site procedures.

Worked example. A calculated cement volume matches the plan, but returns indicate possible losses. Volume pumped alone cannot confirm isolation.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review a fictional cementing quality dossier and identify acceptance evidence gaps.

Model answer guide. Require reconciled volumes, operational observations and appropriate verification reviewed by authorised engineers.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review a fictional cementing quality dossier and identify acceptance evidence gaps.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of casing and cementing?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about casing and cementing?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about casing and cementing be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating casing and cementing?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in casing and cementing?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning casing and cementing?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for casing and cementing. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on casing and cementing contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about casing and cementing?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in casing and cementing?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Well testing and pressure interpretation

Learning objectives

- Explain well testing and pressure interpretation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Well testing and pressure interpretation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Well Integrity Management

Teaching notes

Teaching notes

Core explanation. A well test records flow and pressure response to infer reservoir and well behaviour. Explain drawdown, buildup, skin and boundary effects conceptually. Measurement resolution, rate history and test duration constrain interpretation.

Decision logic. Different models can fit limited data. Use derivative behaviour and independent geology to test models rather than declaring a unique answer. Short tests may not observe distant boundaries. Operational testing requires an approved programme and safety controls.

Worked example. A short buildup appears stable but has not investigated the reservoir boundary; connectivity remains uncertain.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review a fictional test summary and list claims supported and unsupported by it.

Model answer guide. Separate local mobility evidence from field-wide connectivity and long-term deliverability claims.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review a fictional test summary and list claims supported and unsupported by it.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of well testing and pressure interpretation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about well testing and pressure interpretation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about well testing and pressure interpretation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating well testing and pressure interpretation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in well testing and pressure interpretation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning well testing and pressure interpretation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for well testing and pressure interpretation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on well testing and pressure interpretation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about well testing and pressure interpretation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in well testing and pressure interpretation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Corrosion mechanisms and damage management

Learning objectives

- Explain corrosion mechanisms and damage management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Corrosion mechanisms and damage management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Well Integrity Management

Teaching notes

Teaching notes

Core explanation. Corrosion depends on materials, fluids, temperature, environment and operating history. Internal corrosion, external marine corrosion and localised attack can require different controls. Explain general thinning versus pitting and why average thickness may hide local damage.

Decision logic. Identify credible damage mechanisms before selecting inspection or mitigation. Coatings, inhibitors, material selection and cathodic protection have different applications. Competent engineers establish acceptance criteria; classroom measurements never approve equipment for continued service.

Worked example. A plate's average thickness appears acceptable but a local pit is much deeper.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review a fictional damage map and propose a specialist inspection scope.

Model answer guide. Address local severity, mechanism, inspection coverage and operating conditions rather than average thickness alone.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review a fictional damage map and propose a specialist inspection scope.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of corrosion mechanisms and damage management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about corrosion mechanisms and damage management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about corrosion mechanisms and damage management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating corrosion mechanisms and damage management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in corrosion mechanisms and damage management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning corrosion mechanisms and damage management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for corrosion mechanisms and damage management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on corrosion mechanisms and damage management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about corrosion mechanisms and damage management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in corrosion mechanisms and damage management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Inspection planning and technologies

Learning objectives

- Explain inspection planning and technologies, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Inspection planning and technologies
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Well Integrity Management

Teaching notes

Teaching notes

Core explanation. Inspection seeks evidence of condition and degradation using methods fit for the expected damage. Coverage, access, resolution and operator competence affect confidence. Distinguish visual survey, thickness measurement and detailed examination.

Decision logic. Start with the question being answered, then select method and locations. A clean report from limited coverage does not prove the whole asset is defect-free. Record limitations, traceability, findings and required engineering disposition.

Worked example. An external visual survey cannot establish internal wall thickness beneath insulation.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Design an inspection brief with objective, coverage, method and reporting limits.

Model answer guide. Match technique to mechanism and state what cannot be concluded.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Design an inspection brief with objective, coverage, method and reporting limits.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of inspection planning and technologies?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about inspection planning and technologies?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about inspection planning and technologies be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating inspection planning and technologies?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in inspection planning and technologies?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning inspection planning and technologies?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for inspection planning and technologies. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on inspection planning and technologies contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about inspection planning and technologies?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in inspection planning and technologies?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Risk assessment and uncertainty management

Learning objectives

- Explain risk assessment and uncertainty management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Risk assessment and uncertainty management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Well Integrity Management

Teaching notes

Teaching notes

Core explanation. Define the activity and potential harm, identify hazards, evaluate existing controls, then decide further controls and ownership. A risk matrix supports prioritisation but does not prove a risk is tolerable. Include affected people and changing conditions.

Decision logic. Test whether controls are present and effective. Residual risk should be reassessed after control implementation, not merely after a promise. Escalate high-consequence uncertainty for competent review. Project risk also includes schedule, cost and opportunity effects.

Worked example. A permit lists a barrier that has not yet been installed. The claimed residual risk is premature.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Complete a risk register with cause, event, consequence, control, owner and verification.

Model answer guide. Keep hazard and consequence distinct and require evidence before taking control credit.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Complete a risk register with cause, event, consequence, control, owner and verification.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of risk assessment and uncertainty management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about risk assessment and uncertainty management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about risk assessment and uncertainty management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating risk assessment and uncertainty management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in risk assessment and uncertainty management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning risk assessment and uncertainty management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for risk assessment and uncertainty management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on risk assessment and uncertainty management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about risk assessment and uncertainty management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in risk assessment and uncertainty management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Certificate in Well Integrity Management: Communication and Escalation

Learning objectives

- Explain certificate in well integrity management: communication and escalation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Well Integrity Management: Communication and Escalation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Well Integrity Management

Teaching notes

Teaching notes

Core explanation. Certificate in Well Integrity Management: Communication and Escalation describes a practical part of Certificate in Well Integrity Management. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in well integrity management: communication and escalation. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in well integrity management: communication and escalation while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in well integrity management: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in well integrity management: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in well integrity management: communication and escalation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in well integrity management: communication and escalation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in well integrity management: communication and escalation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in well integrity management: communication and escalation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in well integrity management: communication and escalation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in well integrity management: communication and escalation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in well integrity management: communication and escalation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in well integrity management: communication and escalation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in well integrity management: communication and escalation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in well integrity management: communication and escalation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Petroleum policy and institutional governance

Learning objectives

- Explain petroleum policy and institutional governance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Petroleum policy and institutional governance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Well Integrity Management

Teaching notes

Teaching notes

Core explanation. Policy sets objectives, institutions assign authority, and governance creates accountability for decisions and resources. Explain government, regulator and state enterprise roles conceptually without asserting an unverified current Namibian structure.

Decision logic. Separate commercial participation from regulatory judgement and manage conflicts transparently. Define decision rights, disclosure, assurance and challenge. A strong governance design includes implementation capacity and an audit trail, not just an organisation chart.

Worked example. A fictional institution both promotes investment and evaluates its own project compliance, creating a conflict to manage.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Draft a responsibility matrix and conflict-management controls.

Model answer guide. Identify segregated decisions, independent review, declarations and public accountability where applicable.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Draft a responsibility matrix and conflict-management controls.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of petroleum policy and institutional governance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about petroleum policy and institutional governance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about petroleum policy and institutional governance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating petroleum policy and institutional governance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in petroleum policy and institutional governance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning petroleum policy and institutional governance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for petroleum policy and institutional governance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on petroleum policy and institutional governance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about petroleum policy and institutional governance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in petroleum policy and institutional governance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Well Integrity Management: Competence Review

Learning objectives

- Explain certificate in well integrity management: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Well Integrity Management: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Well Integrity Management

Teaching notes

Teaching notes

Core explanation. Certificate in Well Integrity Management: Competence Review describes a practical part of Certificate in Well Integrity Management. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in well integrity management: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in well integrity management: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in well integrity management: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in well integrity management: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in well integrity management: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in well integrity management: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in well integrity management: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in well integrity management: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in well integrity management: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in well integrity management: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in well integrity management: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in well integrity management: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in well integrity management: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in well integrity management: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X07 | Certificate in Offshore Emergency and Crisis Management

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Offshore Emergency and Crisis Management, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Offshore Emergency and Crisis Management.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Emergency preparedness and command

Learning objectives

- Explain emergency preparedness and command, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Emergency preparedness and command
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Emergency and Crisis Management

Teaching notes

Teaching notes

Core explanation. Emergency planning identifies credible scenarios, warning, command, communications, muster, evacuation, medical support and external interfaces. Responsibilities and fallback communications should be understood before an event. Awareness differs from emergency-team qualification.

Decision logic. Use tabletop exercises with timed injects, observer records and debrief actions. Test loss of communications or unavailable resources. Never simulate an actual distress call or activate real emergency equipment without authorised arrangements.

Worked example. A fictional offshore incident interrupts the primary communication link during a weather restriction.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Run a tabletop with incident controller, operations, logistics and communications roles.

Model answer guide. Prioritise people, establish command, verify information, use planned backup channels and document decisions.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Run a tabletop with incident controller, operations, logistics and communications roles.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of emergency preparedness and command?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about emergency preparedness and command?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about emergency preparedness and command be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating emergency preparedness and command?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in emergency preparedness and command?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning emergency preparedness and command?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for emergency preparedness and command. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on emergency preparedness and command contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about emergency preparedness and command?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in emergency preparedness and command?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Incident investigation and learning

Learning objectives

- Explain incident investigation and learning, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Incident investigation and learning
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Emergency and Crisis Management

Teaching notes

Teaching notes

Core explanation. An investigation establishes what happened, why controls failed and how recurrence can be prevented. Preserve evidence, protect people and separate verified facts from assumptions. Near misses can reveal major weaknesses without actual harm.

Decision logic. Use a timeline and causal analysis to explore technical, human and organisational contributors. Avoid premature blame and unsupported conclusions. Actions should address causes, have accountable owners and be checked for effectiveness. Reporting follows applicable site and legal requirements.

Worked example. A dropped tool caused no injury, but exclusion-zone and securing controls were ineffective.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Analyse a fictional near miss and propose three causal actions.

Model answer guide. Include physical prevention, work-system improvements and verification, rather than retraining alone.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Analyse a fictional near miss and propose three causal actions.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of incident investigation and learning?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about incident investigation and learning?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about incident investigation and learning be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating incident investigation and learning?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in incident investigation and learning?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning incident investigation and learning?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for incident investigation and learning. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on incident investigation and learning contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about incident investigation and learning?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in incident investigation and learning?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Certificate in Offshore Emergency and Crisis Management: Systems and Interfaces

Learning objectives

- Explain certificate in offshore emergency and crisis management: systems and interfaces, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Emergency and Crisis Management: Systems and Interfaces
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Emergency and Crisis Management

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Emergency and Crisis Management: Systems and Interfaces describes a practical part of Certificate in Offshore Emergency and Crisis Management. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore emergency and crisis management: systems and interfaces. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore emergency and crisis management: systems and interfaces while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore emergency and crisis management: systems and interfaces: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore emergency and crisis management: systems and interfaces: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore emergency and crisis management: systems and interfaces?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore emergency and crisis management: systems and interfaces?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore emergency and crisis management: systems and interfaces be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore emergency and crisis management: systems and interfaces?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore emergency and crisis management: systems and interfaces?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore emergency and crisis management: systems and interfaces?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore emergency and crisis management: systems and interfaces. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore emergency and crisis management: systems and interfaces contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore emergency and crisis management: systems and interfaces?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore emergency and crisis management: systems and interfaces?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Certificate in Offshore Emergency and Crisis Management: Evidence and Decision Gates

Learning objectives

- Explain certificate in offshore emergency and crisis management: evidence and decision gates, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Emergency and Crisis Management: Evidence and Decision Gates
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Emergency and Crisis Management

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Emergency and Crisis Management: Evidence and Decision Gates describes a practical part of Certificate in Offshore Emergency and Crisis Management. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore emergency and crisis management: evidence and decision gates. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore emergency and crisis management: evidence and decision gates while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore emergency and crisis management: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore emergency and crisis management: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore emergency and crisis management: evidence and decision gates?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore emergency and crisis management: evidence and decision gates?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore emergency and crisis management: evidence and decision gates be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore emergency and crisis management: evidence and decision gates?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore emergency and crisis management: evidence and decision gates?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore emergency and crisis management: evidence and decision gates?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore emergency and crisis management: evidence and decision gates. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore emergency and crisis management: evidence and decision gates contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore emergency and crisis management: evidence and decision gates?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore emergency and crisis management: evidence and decision gates?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Oil spill prevention and response awareness

Learning objectives

- Explain oil spill prevention and response awareness, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Oil spill prevention and response awareness
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Emergency and Crisis Management

Teaching notes

Teaching notes

Core explanation. Spill prevention addresses containment, transfer interfaces, equipment integrity and human actions. Response aims to protect people, prioritise receptors and use suitable tactics under authorised command. Response options depend on oil, weather and access.

Decision logic. Teach notification and planning through tabletop cases. Equipment presence alone does not establish readiness. Actual deployment, dispersant use and marine operations require competent teams and applicable approvals. This course does not confer an external response qualification.

Worked example. A hose leak occurs during a fictional transfer; wind and current threaten a sensitive receptor.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a first-response decision log without activating real equipment.

Model answer guide. Prioritise safety, source control within authority, notification, verified information and coordinated response.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a first-response decision log without activating real equipment.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of oil spill prevention and response awareness?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about oil spill prevention and response awareness?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about oil spill prevention and response awareness be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating oil spill prevention and response awareness?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in oil spill prevention and response awareness?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning oil spill prevention and response awareness?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for oil spill prevention and response awareness. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on oil spill prevention and response awareness contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about oil spill prevention and response awareness?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in oil spill prevention and response awareness?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Production readiness and marine assurance

Learning objectives

- Explain production readiness and marine assurance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Production readiness and marine assurance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Emergency and Crisis Management

Teaching notes

Teaching notes

Core explanation. Operational readiness brings people, procedures, equipment, spares, assurance and emergency arrangements together before service. Marine assurance addresses vessel capability, condition and interfaces for the intended task. Treat readiness as evidence-based acceptance.

Decision logic. Use independent challenge and clear ownership of exceptions. Operational teams must accept the asset with known limitations and an approved response. A dashboard with all green cells is unreliable if supporting records are missing or outdated.

Worked example. A readiness review shows trained staff but no tested spare-parts supply route for a critical pump.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a readiness dossier and a conditions-to-close register.

Model answer guide. Include maintenance, spares, competence, emergency drills and marine interfaces with accountable owners.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a readiness dossier and a conditions-to-close register.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of production readiness and marine assurance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about production readiness and marine assurance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about production readiness and marine assurance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating production readiness and marine assurance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in production readiness and marine assurance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning production readiness and marine assurance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for production readiness and marine assurance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on production readiness and marine assurance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about production readiness and marine assurance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in production readiness and marine assurance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Human factors and safe teamwork

Learning objectives

- Explain human factors and safe teamwork, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Human factors and safe teamwork
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Emergency and Crisis Management

Teaching notes

Teaching notes

Core explanation. Human performance is influenced by fatigue, workload, design, communication and organisational pressure. Errors are not explained adequately by blaming an individual. Teach clear handover, challenge, confirmation and usable procedures.

Decision logic. Identify conditions that make error likely and improve the system. A worker should be able to raise concerns without retaliation. Discuss language and comprehension checks, especially where teams have different experience levels. Avoid presenting awareness as immunity from error.

Worked example. A night-shift handover omits an isolation limitation because both workers assume the other knows.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Redesign the handover and role-play a closed-loop confirmation.

Model answer guide. Include critical status, restrictions, pending actions and acknowledgement, supported by a usable record.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Redesign the handover and role-play a closed-loop confirmation.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of human factors and safe teamwork?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about human factors and safe teamwork?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about human factors and safe teamwork be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating human factors and safe teamwork?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in human factors and safe teamwork?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning human factors and safe teamwork?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for human factors and safe teamwork. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on human factors and safe teamwork contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about human factors and safe teamwork?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in human factors and safe teamwork?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Safety and project leadership

Learning objectives

- Explain safety and project leadership, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Safety and project leadership
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Emergency and Crisis Management

Teaching notes

Teaching notes

Core explanation. Leadership sets priorities through decisions, resources and response to bad news. Explain the difference between stated values and incentives that reward unsafe shortcuts. Leaders need clear delegation, listening and evidence-based challenge.

Decision logic. Use leading indicators tied to important barriers and delivery outcomes. Review overdue actions and organisational capacity, not just aggregate counts. Encourage escalation and resolve conflicting objectives openly. Authority remains accountable even when tasks are delegated.

Worked example. A manager requests schedule recovery while critical tests are incomplete. The team must resolve priorities explicitly.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Write a leadership response and a 30-day improvement plan.

Model answer guide. Require safe sequencing, resources, action owners and follow-up; do not reward concealment of incomplete work.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Write a leadership response and a 30-day improvement plan.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of safety and project leadership?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about safety and project leadership?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about safety and project leadership be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating safety and project leadership?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in safety and project leadership?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning safety and project leadership?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for safety and project leadership. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on safety and project leadership contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about safety and project leadership?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in safety and project leadership?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Risk assessment and uncertainty management

Learning objectives

- Explain risk assessment and uncertainty management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Risk assessment and uncertainty management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Emergency and Crisis Management

Teaching notes

Teaching notes

Core explanation. Define the activity and potential harm, identify hazards, evaluate existing controls, then decide further controls and ownership. A risk matrix supports prioritisation but does not prove a risk is tolerable. Include affected people and changing conditions.

Decision logic. Test whether controls are present and effective. Residual risk should be reassessed after control implementation, not merely after a promise. Escalate high-consequence uncertainty for competent review. Project risk also includes schedule, cost and opportunity effects.

Worked example. A permit lists a barrier that has not yet been installed. The claimed residual risk is premature.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Complete a risk register with cause, event, consequence, control, owner and verification.

Model answer guide. Keep hazard and consequence distinct and require evidence before taking control credit.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Complete a risk register with cause, event, consequence, control, owner and verification.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of risk assessment and uncertainty management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about risk assessment and uncertainty management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about risk assessment and uncertainty management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating risk assessment and uncertainty management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in risk assessment and uncertainty management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning risk assessment and uncertainty management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for risk assessment and uncertainty management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on risk assessment and uncertainty management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about risk assessment and uncertainty management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in risk assessment and uncertainty management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Offshore Emergency and Crisis Management: Competence Review

Learning objectives

- Explain certificate in offshore emergency and crisis management: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Emergency and Crisis Management: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Emergency and Crisis Management

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Emergency and Crisis Management: Competence Review describes a practical part of Certificate in Offshore Emergency and Crisis Management. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore emergency and crisis management: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore emergency and crisis management: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore emergency and crisis management: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore emergency and crisis management: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore emergency and crisis management: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore emergency and crisis management: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore emergency and crisis management: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore emergency and crisis management: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore emergency and crisis management: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore emergency and crisis management: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore emergency and crisis management: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore emergency and crisis management: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore emergency and crisis management: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore emergency and crisis management: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X08 | Certificate in Offshore Environmental Monitoring

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Offshore Environmental Monitoring, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Offshore Environmental Monitoring.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Environmental and social impact assessment

Learning objectives

- Explain environmental and social impact assessment, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Environmental and social impact assessment
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Environmental Monitoring

Teaching notes

Teaching notes

Core explanation. An ESIA identifies project alternatives, baseline conditions, potential impacts, mitigation and monitoring. Social assessment includes affected livelihoods, access, distribution of benefits and grievance processes. Assessment should inform choices before they are fixed.

Decision logic. Apply avoidance before mitigation and consider cumulative impacts. Consultation needs accessible information and documented responses. A study's completion does not guarantee regulatory approval or community agreement. Actual scope follows applicable requirements and specialist review.

Worked example. Two fictional supply-base sites differ in transport distance and fishing-community access impacts.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Compare alternatives and prepare a consultation and mitigation plan.

Model answer guide. Show impact pathways, alternatives, affected groups, residual impacts and monitoring commitments.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Compare alternatives and prepare a consultation and mitigation plan.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of environmental and social impact assessment?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about environmental and social impact assessment?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about environmental and social impact assessment be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating environmental and social impact assessment?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in environmental and social impact assessment?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning environmental and social impact assessment?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for environmental and social impact assessment. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on environmental and social impact assessment contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about environmental and social impact assessment?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in environmental and social impact assessment?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Marine monitoring and evidence quality

Learning objectives

- Explain marine monitoring and evidence quality, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Marine monitoring and evidence quality
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Environmental Monitoring

Teaching notes

Teaching notes

Core explanation. Monitoring tests defined questions using repeatable sampling, measurement and analysis. Explain baseline, reference locations, quality control and detection limits. A changing measurement does not establish its cause automatically.

Decision logic. Specify indicators, frequency, methods, responsibilities and action thresholds through competent review. Maintain chain of custody and calibration records. Interpret trends alongside natural variability and other activities. Avoid using unsupported universal compliance limits.

Worked example. A sample result rises after a storm at both project and reference locations.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Interpret the result and propose a proportionate follow-up.

Model answer guide. Consider regional variability, method quality and exposure pathways before attributing causation.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Interpret the result and propose a proportionate follow-up.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of marine monitoring and evidence quality?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about marine monitoring and evidence quality?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about marine monitoring and evidence quality be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating marine monitoring and evidence quality?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in marine monitoring and evidence quality?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning marine monitoring and evidence quality?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for marine monitoring and evidence quality. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on marine monitoring and evidence quality contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about marine monitoring and evidence quality?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in marine monitoring and evidence quality?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Biodiversity management

Learning objectives

- Explain biodiversity management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Biodiversity management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Environmental Monitoring

Teaching notes

Teaching notes

Core explanation. Biodiversity management identifies important habitats and species, evaluates exposure and applies avoidance, minimisation and restoration where appropriate. Conservation objectives and legal requirements need site-specific verification. Distinguish operational mitigation from a claim of net benefit.

Decision logic. Create measurable commitments with baseline and monitoring evidence. Offsets, if considered, need rigorous specialist and regulatory evaluation; they do not automatically erase impacts. Include cumulative pressures and stakeholder knowledge.

Worked example. A fictional development can reroute a support activity away from a sensitive seasonal habitat.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Draft a hierarchy-based biodiversity action plan.

Model answer guide. Prioritise avoidance, define indicators and ownership, and identify evidence needed for residual-impact review.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Draft a hierarchy-based biodiversity action plan.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of biodiversity management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about biodiversity management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about biodiversity management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating biodiversity management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in biodiversity management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning biodiversity management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for biodiversity management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on biodiversity management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about biodiversity management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in biodiversity management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Spill modelling and response planning

Learning objectives

- Explain spill modelling and response planning, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Spill modelling and response planning
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Environmental Monitoring

Teaching notes

Teaching notes

Core explanation. Spill models estimate transport and fate under specified release, oil and environmental assumptions. They produce scenarios, not exact predictions. Explain trajectory uncertainty, weathering and the importance of current metocean data.

Decision logic. Compare multiple release and weather cases. Connect outputs to response priorities and resource needs without treating a single line as a guaranteed path. Validate model limitations and update information during actual response through competent specialists.

Worked example. Two current scenarios carry a fictional release toward different receptors; one deterministic trajectory hides that range.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Compare scenario maps described in the exercise and propose robust priorities.

Model answer guide. Identify common priorities, scenario-dependent actions, monitoring needs and uncertainty.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Compare scenario maps described in the exercise and propose robust priorities.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of spill modelling and response planning?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about spill modelling and response planning?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about spill modelling and response planning be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating spill modelling and response planning?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in spill modelling and response planning?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning spill modelling and response planning?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for spill modelling and response planning. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on spill modelling and response planning contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about spill modelling and response planning?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in spill modelling and response planning?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Produced water hazardous substances and waste

Learning objectives

- Explain produced water hazardous substances and waste, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Produced water hazardous substances and waste
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Environmental Monitoring

Teaching notes

Teaching notes

Core explanation. Waste management identifies streams, hazards, storage, treatment, transport and final disposition. Separate prevention, reuse, recovery and disposal. Safety data sheets support hazardous-substance understanding but do not replace task assessment.

Decision logic. Track quantities and chain of custody. Mixing streams can increase hazards or eliminate recovery options. Actual handling and discharge limits come from applicable approvals and competent procedures, not classroom defaults. Include spill prevention and contractor verification.

Worked example. A fictional warehouse labels used oil as general waste, obscuring treatment and disposal requirements.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a waste-stream register with controls and evidence.

Model answer guide. Include classification, segregation, containment, authorised route, quantities and receipts.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a waste-stream register with controls and evidence.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of produced water hazardous substances and waste?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about produced water hazardous substances and waste?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about produced water hazardous substances and waste be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating produced water hazardous substances and waste?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in produced water hazardous substances and waste?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning produced water hazardous substances and waste?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for produced water hazardous substances and waste. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on produced water hazardous substances and waste contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about produced water hazardous substances and waste?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in produced water hazardous substances and waste?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Certificate in Offshore Environmental Monitoring: Data and Performance

Learning objectives

- Explain certificate in offshore environmental monitoring: data and performance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Environmental Monitoring: Data and Performance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Environmental Monitoring

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Environmental Monitoring: Data and Performance describes a practical part of Certificate in Offshore Environmental Monitoring. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore environmental monitoring: data and performance. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore environmental monitoring: data and performance while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore environmental monitoring: data and performance: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore environmental monitoring: data and performance: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore environmental monitoring: data and performance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore environmental monitoring: data and performance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore environmental monitoring: data and performance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore environmental monitoring: data and performance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore environmental monitoring: data and performance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore environmental monitoring: data and performance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore environmental monitoring: data and performance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore environmental monitoring: data and performance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore environmental monitoring: data and performance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore environmental monitoring: data and performance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Shoreline protection and recovery

Learning objectives

- Explain shoreline protection and recovery, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Shoreline protection and recovery
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Environmental Monitoring

Teaching notes

Teaching notes

Core explanation. Shoreline response depends on substrate, access, ecological sensitivity, oil condition and public safety. Intervention can itself cause damage. Explain survey, prioritisation, waste handling and recovery endpoints conceptually.

Decision logic. Choose tactics through authorised environmental and operational review. Avoid assuming the most aggressive cleanup is best. Define evidence for completion and monitoring rather than promising restoration by a fixed date. No unsupervised shoreline deployment is included.

Worked example. A fragile fictional wetland may be harmed by heavy vehicles even when access would speed cleanup.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Compare protection and cleanup options and list tradeoffs.

Model answer guide. Include secondary damage, access, responder safety, waste and agreed endpoints.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Compare protection and cleanup options and list tradeoffs.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of shoreline protection and recovery?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about shoreline protection and recovery?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about shoreline protection and recovery be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating shoreline protection and recovery?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in shoreline protection and recovery?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning shoreline protection and recovery?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for shoreline protection and recovery. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on shoreline protection and recovery contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about shoreline protection and recovery?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in shoreline protection and recovery?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Certificate in Offshore Environmental Monitoring: Communication and Escalation

Learning objectives

- Explain certificate in offshore environmental monitoring: communication and escalation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Environmental Monitoring: Communication and Escalation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Environmental Monitoring

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Environmental Monitoring: Communication and Escalation describes a practical part of Certificate in Offshore Environmental Monitoring. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore environmental monitoring: communication and escalation. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore environmental monitoring: communication and escalation while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore environmental monitoring: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore environmental monitoring: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore environmental monitoring: communication and escalation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore environmental monitoring: communication and escalation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore environmental monitoring: communication and escalation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore environmental monitoring: communication and escalation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore environmental monitoring: communication and escalation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore environmental monitoring: communication and escalation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore environmental monitoring: communication and escalation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore environmental monitoring: communication and escalation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore environmental monitoring: communication and escalation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore environmental monitoring: communication and escalation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Stakeholder engagement and communication

Learning objectives

- Explain stakeholder engagement and communication, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Stakeholder engagement and communication
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Environmental Monitoring

Teaching notes

Teaching notes

Core explanation. Stakeholders can affect or be affected by a project. Analyse interests, influence, exposure and communication needs. Consultation is a continuing process, not simply sending information. Include groups with high impact exposure but limited formal power.

Decision logic. Choose accessible channels and record concerns, responses and decisions. Avoid assuming silence equals consent. Communication plans should define purpose, owner, timing, feedback and confidentiality. Actual commitments need delegated authority.

Worked example. A fictional port project consults officials but overlooks fishers whose access may change.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Develop an engagement plan and grievance-response route.

Model answer guide. Include affected groups, accessible formats, response tracking and boundaries on commitments.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Develop an engagement plan and grievance-response route.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of stakeholder engagement and communication?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about stakeholder engagement and communication?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about stakeholder engagement and communication be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating stakeholder engagement and communication?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in stakeholder engagement and communication?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning stakeholder engagement and communication?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for stakeholder engagement and communication. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on stakeholder engagement and communication contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about stakeholder engagement and communication?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in stakeholder engagement and communication?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Offshore Environmental Monitoring: Competence Review

Learning objectives

- Explain certificate in offshore environmental monitoring: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Environmental Monitoring: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Environmental Monitoring

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Environmental Monitoring: Competence Review describes a practical part of Certificate in Offshore Environmental Monitoring. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore environmental monitoring: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore environmental monitoring: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore environmental monitoring: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore environmental monitoring: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore environmental monitoring: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore environmental monitoring: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore environmental monitoring: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore environmental monitoring: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore environmental monitoring: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore environmental monitoring: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore environmental monitoring: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore environmental monitoring: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore environmental monitoring: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore environmental monitoring: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X09 | Certificate in Energy Data Analytics and Reporting

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Energy Data Analytics and Reporting, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Energy Data Analytics and Reporting.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Industrial data architecture and governance

Learning objectives

- Explain industrial data architecture and governance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Industrial data architecture and governance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Data Analytics and Reporting

Teaching notes

Teaching notes

Core explanation. Industrial data flows from sensors through historians and integration platforms to analysis and decisions. Define asset identity, units, timestamps, quality status and ownership. A large dataset is not necessarily fit for purpose.

Decision logic. Check time synchronisation, missing values, calibration changes and access permissions before analysis. Keep provenance and revision history. Avoid transferring confidential operational data into exercises; all datasets in this package are fictional.

Worked example. A trend combines pressure in bar and kilopascals under one label, producing a false step change.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a data dictionary and quality checks for a fictional dataset.

Model answer guide. Define units, time basis, validity flags, owner and transformations; resolve inconsistent units before interpretation.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a data dictionary and quality checks for a fictional dataset.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of industrial data architecture and governance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about industrial data architecture and governance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about industrial data architecture and governance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating industrial data architecture and governance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in industrial data architecture and governance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning industrial data architecture and governance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for industrial data architecture and governance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on industrial data architecture and governance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about industrial data architecture and governance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in industrial data architecture and governance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Production forecasting

Learning objectives

- Explain production forecasting, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Production forecasting
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Data Analytics and Reporting

Teaching notes

Teaching notes

Core explanation. Forecasts combine reservoir behaviour, well availability, ramp-up, capacity constraints and downtime. Distinguish potential reservoir production from saleable output. State units, time basis and whether rates are instantaneous, daily averages or annual totals.

Decision logic. Build low, base and high cases with internally consistent constraints. Bottlenecks can shift as water production rises. Compare forecast to observed history when available and track revisions with reasons. Do not assign actual Namibian first-oil dates from classroom scenarios.

Worked example. A system with 100,000 barrels/day potential and 90% availability yields 90,000 barrels/day average before other constraints.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a one-year forecast with availability falling to 80% for three months.

Model answer guide. Calculate period-weighted output and explain facility versus reservoir constraints separately.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a one-year forecast with availability falling to 80% for three months.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of production forecasting?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about production forecasting?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about production forecasting be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating production forecasting?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in production forecasting?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning production forecasting?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for production forecasting. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on production forecasting contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about production forecasting?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in production forecasting?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: NPV IRR and payback

Learning objectives

- Explain npv irr and payback, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of NPV IRR and payback
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Data Analytics and Reporting

Teaching notes

Teaching notes

Core explanation. Net present value discounts dated cash flows at a stated rate. Internal rate of return is a rate making NPV zero and may be ambiguous for unusual cash-flow patterns. Payback measures recovery timing and ignores some value effects.

Decision logic. Compare projects using consistent perspective, currency and risk assumptions. NPV scale and capital constraints matter; ranking by IRR alone can mislead. Real cash flows require a compatible real discount rate and nominal flows a compatible nominal rate.

Worked example. Minus 100 now and plus 121 after two years has zero NPV at 10% because 121 divided by 1.1 squared equals 100.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate NPV at 5% and explain why the result changes.

Model answer guide. NPV is about 9.75; a lower discount rate increases the present value of the future receipt.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Calculate NPV at 5% and explain why the result changes.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of npv irr and payback?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about npv irr and payback?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about npv irr and payback be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating npv irr and payback?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in npv irr and payback?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning npv irr and payback?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for npv irr and payback. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on npv irr and payback contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about npv irr and payback?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in npv irr and payback?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Certificate in Energy Data Analytics and Reporting: Evidence and Decision Gates

Learning objectives

- Explain certificate in energy data analytics and reporting: evidence and decision gates, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Energy Data Analytics and Reporting: Evidence and Decision Gates
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Data Analytics and Reporting

Teaching notes

Teaching notes

Core explanation. Certificate in Energy Data Analytics and Reporting: Evidence and Decision Gates describes a practical part of Certificate in Energy Data Analytics and Reporting. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in energy data analytics and reporting: evidence and decision gates. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in energy data analytics and reporting: evidence and decision gates while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in energy data analytics and reporting: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in energy data analytics and reporting: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in energy data analytics and reporting: evidence and decision gates?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in energy data analytics and reporting: evidence and decision gates?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in energy data analytics and reporting: evidence and decision gates be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in energy data analytics and reporting: evidence and decision gates?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in energy data analytics and reporting: evidence and decision gates?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in energy data analytics and reporting: evidence and decision gates?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in energy data analytics and reporting: evidence and decision gates. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in energy data analytics and reporting: evidence and decision gates contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in energy data analytics and reporting: evidence and decision gates?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in energy data analytics and reporting: evidence and decision gates?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Crude oil quality and assay interpretation

Learning objectives

- Explain crude oil quality and assay interpretation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Crude oil quality and assay interpretation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Data Analytics and Reporting

Teaching notes

Teaching notes

Core explanation. Crude properties include density, sulfur, acidity, metals, salt, water and distillation behaviour. API gravity is a density scale, not a complete quality grade. Explain how crude assay and sampling representativeness affect refinery fit and valuation.

Decision logic. A light crude can still present processing or materials challenges. Compare whole-crude properties with fraction yields and contaminants. Distinguish a laboratory result, a contractual specification and a refinery's acceptable feed envelope.

Worked example. Two hypothetical crudes have similar API gravity but very different sulfur and metals contents.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Compare the two fictional assays and list additional data needed for refinery selection.

Model answer guide. Include contaminant management, fraction yields, blending and sampling quality; avoid ranking by API gravity alone.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Compare the two fictional assays and list additional data needed for refinery selection.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of crude oil quality and assay interpretation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about crude oil quality and assay interpretation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about crude oil quality and assay interpretation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating crude oil quality and assay interpretation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in crude oil quality and assay interpretation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning crude oil quality and assay interpretation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for crude oil quality and assay interpretation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on crude oil quality and assay interpretation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about crude oil quality and assay interpretation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in crude oil quality and assay interpretation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Certificate in Energy Data Analytics and Reporting: Data and Performance

Learning objectives

- Explain certificate in energy data analytics and reporting: data and performance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Energy Data Analytics and Reporting: Data and Performance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Data Analytics and Reporting

Teaching notes

Teaching notes

Core explanation. Certificate in Energy Data Analytics and Reporting: Data and Performance describes a practical part of Certificate in Energy Data Analytics and Reporting. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in energy data analytics and reporting: data and performance. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in energy data analytics and reporting: data and performance while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in energy data analytics and reporting: data and performance: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in energy data analytics and reporting: data and performance: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in energy data analytics and reporting: data and performance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in energy data analytics and reporting: data and performance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in energy data analytics and reporting: data and performance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in energy data analytics and reporting: data and performance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in energy data analytics and reporting: data and performance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in energy data analytics and reporting: data and performance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in energy data analytics and reporting: data and performance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in energy data analytics and reporting: data and performance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in energy data analytics and reporting: data and performance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in energy data analytics and reporting: data and performance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Petroleum policy and institutional governance

Learning objectives

- Explain petroleum policy and institutional governance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Petroleum policy and institutional governance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Data Analytics and Reporting

Teaching notes

Teaching notes

Core explanation. Policy sets objectives, institutions assign authority, and governance creates accountability for decisions and resources. Explain government, regulator and state enterprise roles conceptually without asserting an unverified current Namibian structure.

Decision logic. Separate commercial participation from regulatory judgement and manage conflicts transparently. Define decision rights, disclosure, assurance and challenge. A strong governance design includes implementation capacity and an audit trail, not just an organisation chart.

Worked example. A fictional institution both promotes investment and evaluates its own project compliance, creating a conflict to manage.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Draft a responsibility matrix and conflict-management controls.

Model answer guide. Identify segregated decisions, independent review, declarations and public accountability where applicable.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Draft a responsibility matrix and conflict-management controls.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of petroleum policy and institutional governance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about petroleum policy and institutional governance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about petroleum policy and institutional governance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating petroleum policy and institutional governance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in petroleum policy and institutional governance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning petroleum policy and institutional governance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for petroleum policy and institutional governance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on petroleum policy and institutional governance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about petroleum policy and institutional governance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in petroleum policy and institutional governance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: SCADA DCS and integrated control systems

Learning objectives

- Explain scada dcs and integrated control systems, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of SCADA DCS and integrated control systems
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Data Analytics and Reporting

Teaching notes

Teaching notes

Core explanation. Control systems acquire signals, execute logic and support operator actions. SCADA, DCS and integrated control architectures differ by context; safety functions require appropriate separation and assurance. Explain sensor, controller, final element and human interface.

Decision logic. Alarm and control design must match process needs and human capability. More alarms do not necessarily improve safety. Changes to logic require controlled review, testing and approval. This course uses simulation only and provides no live-system modification instructions.

Worked example. An alarm floods the operator screen during a simulated upset, obscuring the initiating condition.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Map a control loop and evaluate an alarm list for prioritisation questions.

Model answer guide. Identify measurement, logic, final element and feedback, with rationalised alarms and change control.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Map a control loop and evaluate an alarm list for prioritisation questions.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of scada dcs and integrated control systems?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about scada dcs and integrated control systems?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about scada dcs and integrated control systems be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating scada dcs and integrated control systems?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in scada dcs and integrated control systems?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning scada dcs and integrated control systems?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for scada dcs and integrated control systems. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on scada dcs and integrated control systems contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about scada dcs and integrated control systems?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in scada dcs and integrated control systems?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Certificate in Energy Data Analytics and Reporting: Knowledge Check

Learning objectives

- Explain certificate in energy data analytics and reporting: knowledge check, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Energy Data Analytics and Reporting: Knowledge Check
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Data Analytics and Reporting

Teaching notes

Teaching notes

Core explanation. Certificate in Energy Data Analytics and Reporting: Knowledge Check describes a practical part of Certificate in Energy Data Analytics and Reporting. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in energy data analytics and reporting: knowledge check. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in energy data analytics and reporting: knowledge check while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in energy data analytics and reporting: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in energy data analytics and reporting: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in energy data analytics and reporting: knowledge check?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in energy data analytics and reporting: knowledge check?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in energy data analytics and reporting: knowledge check be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in energy data analytics and reporting: knowledge check?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in energy data analytics and reporting: knowledge check?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in energy data analytics and reporting: knowledge check?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in energy data analytics and reporting: knowledge check. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in energy data analytics and reporting: knowledge check contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in energy data analytics and reporting: knowledge check?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in energy data analytics and reporting: knowledge check?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Energy Data Analytics and Reporting: Competence Review

Learning objectives

- Explain certificate in energy data analytics and reporting: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Energy Data Analytics and Reporting: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Data Analytics and Reporting

Teaching notes

Teaching notes

Core explanation. Certificate in Energy Data Analytics and Reporting: Competence Review describes a practical part of Certificate in Energy Data Analytics and Reporting. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in energy data analytics and reporting: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in energy data analytics and reporting: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in energy data analytics and reporting: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in energy data analytics and reporting: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in energy data analytics and reporting: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in energy data analytics and reporting: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in energy data analytics and reporting: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in energy data analytics and reporting: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in energy data analytics and reporting: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in energy data analytics and reporting: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in energy data analytics and reporting: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in energy data analytics and reporting: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in energy data analytics and reporting: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in energy data analytics and reporting: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X10 | Certificate in Contractor HSE and SIMOPS Leadership

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Contractor HSE and SIMOPS Leadership, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Contractor HSE and SIMOPS Leadership.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Offshore hazards and safe working

Learning objectives

- Explain offshore hazards and safe working, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Offshore hazards and safe working
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Contractor HSE and SIMOPS Leadership

Teaching notes

Teaching notes

Core explanation. Hazards include moving machinery, hydrocarbons, pressure, electricity, weather, dropped objects and human exposure. Risk depends on likelihood and consequence in a defined task. Hazard recognition is the beginning of control, not permission to work.

Decision logic. Use elimination, substitution and engineered controls before relying only on procedures or PPE. Include manual handling and hazardous substances from the IMIST source themes. Train learners to stop and escalate unsafe conditions and remain within their authority.

Worked example. A walkway crosses a lifting zone. A helmet alone does not remove dropped-load exposure.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Identify five hazards in a fictional deck layout and propose controls in hierarchy order.

Model answer guide. Prefer segregation or changed routing over PPE alone; identify responsible verification.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Identify five hazards in a fictional deck layout and propose controls in hierarchy order.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of offshore hazards and safe working?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about offshore hazards and safe working?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about offshore hazards and safe working be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating offshore hazards and safe working?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in offshore hazards and safe working?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning offshore hazards and safe working?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for offshore hazards and safe working. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on offshore hazards and safe working contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about offshore hazards and safe working?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in offshore hazards and safe working?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Permit to work isolation and SIMOPS

Learning objectives

- Explain permit to work isolation and simops, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Permit to work isolation and SIMOPS
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Contractor HSE and SIMOPS Leadership

Teaching notes

Teaching notes

Core explanation. A permit coordinates specified work within defined conditions and time. It complements risk assessment, isolation, competence and supervision. SIMOPS review considers interactions between tasks that may be safe individually but unsafe together.

Decision logic. Walk through planning, authorisation, briefing, verification, suspension and handback conceptually. A signature does not establish a safe condition. Changes in scope, personnel or environment require review under the site system. Never reuse a classroom permit as operational authorisation.

Worked example. Hot work and a nearby hydrocarbon transfer are proposed concurrently. Their interaction needs coordinated review.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review two fictional permits and identify interface conflicts and suspension triggers.

Model answer guide. Include shared hazards, isolation boundaries, authority, communication and revalidation after change.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review two fictional permits and identify interface conflicts and suspension triggers.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of permit to work isolation and simops?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about permit to work isolation and simops?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about permit to work isolation and simops be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating permit to work isolation and simops?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in permit to work isolation and simops?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning permit to work isolation and simops?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for permit to work isolation and simops. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on permit to work isolation and simops contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about permit to work isolation and simops?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in permit to work isolation and simops?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Process safety fundamentals

Learning objectives

- Explain process safety fundamentals, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Process safety fundamentals
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Contractor HSE and SIMOPS Leadership

Teaching notes

Teaching notes

Core explanation. Process safety prevents major loss-of-containment and energy-release events. Personal injury rates do not measure every major-accident risk. Explain hazard, initiating event, preventive barriers, mitigative barriers and consequences using a bowtie.

Decision logic. Assess barrier performance standards, degradation and independent assurance. HAZID, HAZOP and other reviews have different purposes and need competent facilitation. Do not call a classroom checklist a certified safety study. Track temporary changes and overdue critical actions.

Worked example. An asset reports no slips but has several overdue safety-critical tests; major-accident assurance remains weak.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Build a bowtie for a fictional separator loss of containment.

Model answer guide. Separate prevention and mitigation and assign barrier evidence, owner and degradation response.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Build a bowtie for a fictional separator loss of containment.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of process safety fundamentals?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about process safety fundamentals?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about process safety fundamentals be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating process safety fundamentals?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in process safety fundamentals?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning process safety fundamentals?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for process safety fundamentals. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on process safety fundamentals contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about process safety fundamentals?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in process safety fundamentals?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Certificate in Contractor HSE and SIMOPS Leadership: Evidence and Decision Gates

Learning objectives

- Explain certificate in contractor hse and simops leadership: evidence and decision gates, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Contractor HSE and SIMOPS Leadership: Evidence and Decision Gates
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Contractor HSE and SIMOPS Leadership

Teaching notes

Teaching notes

Core explanation. Certificate in Contractor HSE and SIMOPS Leadership: Evidence and Decision Gates describes a practical part of Certificate in Contractor HSE and SIMOPS Leadership. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in contractor hse and simops leadership: evidence and decision gates. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in contractor hse and simops leadership: evidence and decision gates while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in contractor hse and simops leadership: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in contractor hse and simops leadership: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in contractor hse and simops leadership: evidence and decision gates?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in contractor hse and simops leadership: evidence and decision gates?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in contractor hse and simops leadership: evidence and decision gates be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in contractor hse and simops leadership: evidence and decision gates?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in contractor hse and simops leadership: evidence and decision gates?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in contractor hse and simops leadership: evidence and decision gates?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in contractor hse and simops leadership: evidence and decision gates. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in contractor hse and simops leadership: evidence and decision gates contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in contractor hse and simops leadership: evidence and decision gates?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in contractor hse and simops leadership: evidence and decision gates?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Certificate in Contractor HSE and SIMOPS Leadership: Work Planning

Learning objectives

- Explain certificate in contractor hse and simops leadership: work planning, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Contractor HSE and SIMOPS Leadership: Work Planning
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Contractor HSE and SIMOPS Leadership

Teaching notes

Teaching notes

Core explanation. Certificate in Contractor HSE and SIMOPS Leadership: Work Planning describes a practical part of Certificate in Contractor HSE and SIMOPS Leadership. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in contractor hse and simops leadership: work planning. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in contractor hse and simops leadership: work planning while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in contractor hse and simops leadership: work planning: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in contractor hse and simops leadership: work planning: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in contractor hse and simops leadership: work planning?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in contractor hse and simops leadership: work planning?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in contractor hse and simops leadership: work planning be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in contractor hse and simops leadership: work planning?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in contractor hse and simops leadership: work planning?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in contractor hse and simops leadership: work planning?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in contractor hse and simops leadership: work planning. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in contractor hse and simops leadership: work planning contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in contractor hse and simops leadership: work planning?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in contractor hse and simops leadership: work planning?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Incident investigation and learning

Learning objectives

- Explain incident investigation and learning, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Incident investigation and learning
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Contractor HSE and SIMOPS Leadership

Teaching notes

Teaching notes

Core explanation. An investigation establishes what happened, why controls failed and how recurrence can be prevented. Preserve evidence, protect people and separate verified facts from assumptions. Near misses can reveal major weaknesses without actual harm.

Decision logic. Use a timeline and causal analysis to explore technical, human and organisational contributors. Avoid premature blame and unsupported conclusions. Actions should address causes, have accountable owners and be checked for effectiveness. Reporting follows applicable site and legal requirements.

Worked example. A dropped tool caused no injury, but exclusion-zone and securing controls were ineffective.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Analyse a fictional near miss and propose three causal actions.

Model answer guide. Include physical prevention, work-system improvements and verification, rather than retraining alone.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Analyse a fictional near miss and propose three causal actions.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of incident investigation and learning?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about incident investigation and learning?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about incident investigation and learning be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating incident investigation and learning?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in incident investigation and learning?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning incident investigation and learning?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for incident investigation and learning. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on incident investigation and learning contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about incident investigation and learning?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in incident investigation and learning?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Certificate in Contractor HSE and SIMOPS Leadership: Applied Case

Learning objectives

- Explain certificate in contractor hse and simops leadership: applied case, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Contractor HSE and SIMOPS Leadership: Applied Case
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Contractor HSE and SIMOPS Leadership

Teaching notes

Teaching notes

Core explanation. Certificate in Contractor HSE and SIMOPS Leadership: Applied Case describes a practical part of Certificate in Contractor HSE and SIMOPS Leadership. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in contractor hse and simops leadership: applied case. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in contractor hse and simops leadership: applied case while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in contractor hse and simops leadership: applied case: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in contractor hse and simops leadership: applied case: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in contractor hse and simops leadership: applied case?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in contractor hse and simops leadership: applied case?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in contractor hse and simops leadership: applied case be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in contractor hse and simops leadership: applied case?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in contractor hse and simops leadership: applied case?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in contractor hse and simops leadership: applied case?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in contractor hse and simops leadership: applied case. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in contractor hse and simops leadership: applied case contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in contractor hse and simops leadership: applied case?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in contractor hse and simops leadership: applied case?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Safety and project leadership

Learning objectives

- Explain safety and project leadership, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Safety and project leadership
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Contractor HSE and SIMOPS Leadership

Teaching notes

Teaching notes

Core explanation. Leadership sets priorities through decisions, resources and response to bad news. Explain the difference between stated values and incentives that reward unsafe shortcuts. Leaders need clear delegation, listening and evidence-based challenge.

Decision logic. Use leading indicators tied to important barriers and delivery outcomes. Review overdue actions and organisational capacity, not just aggregate counts. Encourage escalation and resolve conflicting objectives openly. Authority remains accountable even when tasks are delegated.

Worked example. A manager requests schedule recovery while critical tests are incomplete. The team must resolve priorities explicitly.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Write a leadership response and a 30-day improvement plan.

Model answer guide. Require safe sequencing, resources, action owners and follow-up; do not reward concealment of incomplete work.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Write a leadership response and a 30-day improvement plan.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of safety and project leadership?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about safety and project leadership?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about safety and project leadership be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating safety and project leadership?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in safety and project leadership?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning safety and project leadership?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for safety and project leadership. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on safety and project leadership contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about safety and project leadership?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in safety and project leadership?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Certificate in Contractor HSE and SIMOPS Leadership: Knowledge Check

Learning objectives

- Explain certificate in contractor hse and simops leadership: knowledge check, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Contractor HSE and SIMOPS Leadership: Knowledge Check
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Contractor HSE and SIMOPS Leadership

Teaching notes

Teaching notes

Core explanation. Certificate in Contractor HSE and SIMOPS Leadership: Knowledge Check describes a practical part of Certificate in Contractor HSE and SIMOPS Leadership. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in contractor hse and simops leadership: knowledge check. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in contractor hse and simops leadership: knowledge check while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in contractor hse and simops leadership: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in contractor hse and simops leadership: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in contractor hse and simops leadership: knowledge check?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in contractor hse and simops leadership: knowledge check?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in contractor hse and simops leadership: knowledge check be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in contractor hse and simops leadership: knowledge check?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in contractor hse and simops leadership: knowledge check?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in contractor hse and simops leadership: knowledge check?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in contractor hse and simops leadership: knowledge check. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in contractor hse and simops leadership: knowledge check contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in contractor hse and simops leadership: knowledge check?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in contractor hse and simops leadership: knowledge check?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Contractor HSE and SIMOPS Leadership: Competence Review

Learning objectives

- Explain certificate in contractor hse and simops leadership: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Contractor HSE and SIMOPS Leadership: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Contractor HSE and SIMOPS Leadership

Teaching notes

Teaching notes

Core explanation. Certificate in Contractor HSE and SIMOPS Leadership: Competence Review describes a practical part of Certificate in Contractor HSE and SIMOPS Leadership. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in contractor hse and simops leadership: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in contractor hse and simops leadership: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in contractor hse and simops leadership: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in contractor hse and simops leadership: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in contractor hse and simops leadership: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in contractor hse and simops leadership: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in contractor hse and simops leadership: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in contractor hse and simops leadership: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in contractor hse and simops leadership: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in contractor hse and simops leadership: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in contractor hse and simops leadership: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in contractor hse and simops leadership: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in contractor hse and simops leadership: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in contractor hse and simops leadership: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X11 | Certificate in Offshore Metocean and Marine Operations

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Offshore Metocean and Marine Operations, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Offshore Metocean and Marine Operations.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Certificate in Offshore Metocean and Marine Operations: Core Concepts

Learning objectives

- Explain certificate in offshore metocean and marine operations: core concepts, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Metocean and Marine Operations: Core Concepts
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Metocean and Marine Operations

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Metocean and Marine Operations: Core Concepts describes a practical part of Certificate in Offshore Metocean and Marine Operations. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore metocean and marine operations: core concepts. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore metocean and marine operations: core concepts while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore metocean and marine operations: core concepts: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore metocean and marine operations: core concepts: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore metocean and marine operations: core concepts?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore metocean and marine operations: core concepts?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore metocean and marine operations: core concepts be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore metocean and marine operations: core concepts?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore metocean and marine operations: core concepts?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore metocean and marine operations: core concepts?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore metocean and marine operations: core concepts. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore metocean and marine operations: core concepts contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore metocean and marine operations: core concepts?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore metocean and marine operations: core concepts?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Marine operations and station keeping

Learning objectives

- Explain marine operations and station keeping, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Marine operations and station keeping
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Metocean and Marine Operations

Teaching notes

Teaching notes

Core explanation. Floating facilities and vessels maintain position through mooring, dynamic positioning or combinations appropriate to their design. Marine operations depend on weather, equipment condition and personnel competence. Explain station-keeping failure consequences for risers, lines and transfer operations.

Decision logic. Operating windows are vessel- and task-specific. Review weather forecasts, redundancy, assurance and abort criteria before work. Do not use classroom numbers as vessel limits. Interface plans should define who can pause the operation and how changes are communicated.

Worked example. An operation remains within yesterday's forecast but the latest forecast deteriorates during the planned work window.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a go-or-defer briefing identifying information needed, authority and contingency.

Model answer guide. Use current metocean data, approved limits, equipment status and safe disengagement planning.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a go-or-defer briefing identifying information needed, authority and contingency.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of marine operations and station keeping?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about marine operations and station keeping?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about marine operations and station keeping be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating marine operations and station keeping?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in marine operations and station keeping?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning marine operations and station keeping?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for marine operations and station keeping. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on marine operations and station keeping contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about marine operations and station keeping?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in marine operations and station keeping?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Certificate in Offshore Metocean and Marine Operations: Systems and Interfaces

Learning objectives

- Explain certificate in offshore metocean and marine operations: systems and interfaces, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Metocean and Marine Operations: Systems and Interfaces
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Metocean and Marine Operations

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Metocean and Marine Operations: Systems and Interfaces describes a practical part of Certificate in Offshore Metocean and Marine Operations. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore metocean and marine operations: systems and interfaces. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore metocean and marine operations: systems and interfaces while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore metocean and marine operations: systems and interfaces: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore metocean and marine operations: systems and interfaces: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore metocean and marine operations: systems and interfaces?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore metocean and marine operations: systems and interfaces?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore metocean and marine operations: systems and interfaces be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore metocean and marine operations: systems and interfaces?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore metocean and marine operations: systems and interfaces?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore metocean and marine operations: systems and interfaces?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore metocean and marine operations: systems and interfaces. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore metocean and marine operations: systems and interfaces contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore metocean and marine operations: systems and interfaces?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore metocean and marine operations: systems and interfaces?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Certificate in Offshore Metocean and Marine Operations: Evidence and Decision Gates

Learning objectives

- Explain certificate in offshore metocean and marine operations: evidence and decision gates, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Metocean and Marine Operations: Evidence and Decision Gates
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Metocean and Marine Operations

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Metocean and Marine Operations: Evidence and Decision Gates describes a practical part of Certificate in Offshore Metocean and Marine Operations. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore metocean and marine operations: evidence and decision gates. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore metocean and marine operations: evidence and decision gates while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore metocean and marine operations: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore metocean and marine operations: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore metocean and marine operations: evidence and decision gates?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore metocean and marine operations: evidence and decision gates?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore metocean and marine operations: evidence and decision gates be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore metocean and marine operations: evidence and decision gates?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore metocean and marine operations: evidence and decision gates?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore metocean and marine operations: evidence and decision gates?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore metocean and marine operations: evidence and decision gates. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore metocean and marine operations: evidence and decision gates contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore metocean and marine operations: evidence and decision gates?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore metocean and marine operations: evidence and decision gates?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Certificate in Offshore Metocean and Marine Operations: Work Planning

Learning objectives

- Explain certificate in offshore metocean and marine operations: work planning, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Metocean and Marine Operations: Work Planning
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Metocean and Marine Operations

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Metocean and Marine Operations: Work Planning describes a practical part of Certificate in Offshore Metocean and Marine Operations. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore metocean and marine operations: work planning. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore metocean and marine operations: work planning while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore metocean and marine operations: work planning: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore metocean and marine operations: work planning: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore metocean and marine operations: work planning?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore metocean and marine operations: work planning?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore metocean and marine operations: work planning be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore metocean and marine operations: work planning?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore metocean and marine operations: work planning?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore metocean and marine operations: work planning?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore metocean and marine operations: work planning. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore metocean and marine operations: work planning contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore metocean and marine operations: work planning?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore metocean and marine operations: work planning?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Certificate in Offshore Metocean and Marine Operations: Data and Performance

Learning objectives

- Explain certificate in offshore metocean and marine operations: data and performance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Metocean and Marine Operations: Data and Performance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Metocean and Marine Operations

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Metocean and Marine Operations: Data and Performance describes a practical part of Certificate in Offshore Metocean and Marine Operations. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore metocean and marine operations: data and performance. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore metocean and marine operations: data and performance while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore metocean and marine operations: data and performance: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore metocean and marine operations: data and performance: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore metocean and marine operations: data and performance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore metocean and marine operations: data and performance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore metocean and marine operations: data and performance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore metocean and marine operations: data and performance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore metocean and marine operations: data and performance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore metocean and marine operations: data and performance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore metocean and marine operations: data and performance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore metocean and marine operations: data and performance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore metocean and marine operations: data and performance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore metocean and marine operations: data and performance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Risk assessment and uncertainty management

Learning objectives

- Explain risk assessment and uncertainty management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Risk assessment and uncertainty management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Metocean and Marine Operations

Teaching notes

Teaching notes

Core explanation. Define the activity and potential harm, identify hazards, evaluate existing controls, then decide further controls and ownership. A risk matrix supports prioritisation but does not prove a risk is tolerable. Include affected people and changing conditions.

Decision logic. Test whether controls are present and effective. Residual risk should be reassessed after control implementation, not merely after a promise. Escalate high-consequence uncertainty for competent review. Project risk also includes schedule, cost and opportunity effects.

Worked example. A permit lists a barrier that has not yet been installed. The claimed residual risk is premature.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Complete a risk register with cause, event, consequence, control, owner and verification.

Model answer guide. Keep hazard and consequence distinct and require evidence before taking control credit.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Complete a risk register with cause, event, consequence, control, owner and verification.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of risk assessment and uncertainty management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about risk assessment and uncertainty management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about risk assessment and uncertainty management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating risk assessment and uncertainty management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in risk assessment and uncertainty management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning risk assessment and uncertainty management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for risk assessment and uncertainty management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on risk assessment and uncertainty management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about risk assessment and uncertainty management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in risk assessment and uncertainty management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Emergency preparedness and command

Learning objectives

- Explain emergency preparedness and command, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Emergency preparedness and command
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Metocean and Marine Operations

Teaching notes

Teaching notes

Core explanation. Emergency planning identifies credible scenarios, warning, command, communications, muster, evacuation, medical support and external interfaces. Responsibilities and fallback communications should be understood before an event. Awareness differs from emergency-team qualification.

Decision logic. Use tabletop exercises with timed injects, observer records and debrief actions. Test loss of communications or unavailable resources. Never simulate an actual distress call or activate real emergency equipment without authorised arrangements.

Worked example. A fictional offshore incident interrupts the primary communication link during a weather restriction.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Run a tabletop with incident controller, operations, logistics and communications roles.

Model answer guide. Prioritise people, establish command, verify information, use planned backup channels and document decisions.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Run a tabletop with incident controller, operations, logistics and communications roles.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of emergency preparedness and command?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about emergency preparedness and command?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about emergency preparedness and command be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating emergency preparedness and command?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in emergency preparedness and command?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning emergency preparedness and command?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for emergency preparedness and command. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on emergency preparedness and command contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about emergency preparedness and command?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in emergency preparedness and command?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Certificate in Offshore Metocean and Marine Operations: Knowledge Check

Learning objectives

- Explain certificate in offshore metocean and marine operations: knowledge check, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Metocean and Marine Operations: Knowledge Check
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Metocean and Marine Operations

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Metocean and Marine Operations: Knowledge Check describes a practical part of Certificate in Offshore Metocean and Marine Operations. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore metocean and marine operations: knowledge check. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore metocean and marine operations: knowledge check while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore metocean and marine operations: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore metocean and marine operations: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore metocean and marine operations: knowledge check?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore metocean and marine operations: knowledge check?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore metocean and marine operations: knowledge check be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore metocean and marine operations: knowledge check?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore metocean and marine operations: knowledge check?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore metocean and marine operations: knowledge check?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore metocean and marine operations: knowledge check. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore metocean and marine operations: knowledge check contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore metocean and marine operations: knowledge check?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore metocean and marine operations: knowledge check?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Offshore Metocean and Marine Operations: Competence Review

Learning objectives

- Explain certificate in offshore metocean and marine operations: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Metocean and Marine Operations: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Metocean and Marine Operations

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Metocean and Marine Operations: Competence Review describes a practical part of Certificate in Offshore Metocean and Marine Operations. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore metocean and marine operations: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore metocean and marine operations: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore metocean and marine operations: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore metocean and marine operations: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore metocean and marine operations: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore metocean and marine operations: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore metocean and marine operations: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore metocean and marine operations: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore metocean and marine operations: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore metocean and marine operations: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore metocean and marine operations: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore metocean and marine operations: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore metocean and marine operations: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore metocean and marine operations: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X12 | Certificate in Offshore Maintenance Planning

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Offshore Maintenance Planning, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Offshore Maintenance Planning.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Asset lifecycle management

Learning objectives

- Explain asset lifecycle management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Asset lifecycle management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Maintenance Planning

Teaching notes

Teaching notes

Core explanation. Asset decisions extend from design and procurement through operations, modification and retirement. Define required functions, service conditions and performance measures early. Integrity, availability and whole-life cost are related but different objectives.

Decision logic. Identify critical assets and establish information ownership across handover. Missing design, inspection or maintenance records can undermine later decisions. Lifecycle planning includes obsolescence, spares and decommissioning obligations rather than focusing only on purchase price.

Worked example. A low-cost pump has no maintainable offshore spare strategy and long replacement lead time.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Compare purchase cost with whole-life support for two fictional assets.

Model answer guide. Include downtime, maintenance, access, spares, documentation and retirement costs.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Compare purchase cost with whole-life support for two fictional assets.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of asset lifecycle management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about asset lifecycle management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about asset lifecycle management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating asset lifecycle management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in asset lifecycle management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning asset lifecycle management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for asset lifecycle management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on asset lifecycle management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about asset lifecycle management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in asset lifecycle management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Certificate in Offshore Maintenance Planning: Risk Controls

Learning objectives

- Explain certificate in offshore maintenance planning: risk controls, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Maintenance Planning: Risk Controls
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Maintenance Planning

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Maintenance Planning: Risk Controls describes a practical part of Certificate in Offshore Maintenance Planning. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore maintenance planning: risk controls. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore maintenance planning: risk controls while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore maintenance planning: risk controls: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore maintenance planning: risk controls: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore maintenance planning: risk controls?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore maintenance planning: risk controls?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore maintenance planning: risk controls be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore maintenance planning: risk controls?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore maintenance planning: risk controls?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore maintenance planning: risk controls?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore maintenance planning: risk controls. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore maintenance planning: risk controls contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore maintenance planning: risk controls?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore maintenance planning: risk controls?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Maintenance planning and CMMS

Learning objectives

- Explain maintenance planning and cmms, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Maintenance planning and CMMS
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Maintenance Planning

Teaching notes

Teaching notes

Core explanation. A computerised maintenance system links asset hierarchy, work orders, tasks, spares, labour and history. Data quality determines usefulness. Separate a work request, authorised work order, job execution and verified closure.

Decision logic. Prioritise work by consequence and criticality rather than age alone. A closed work order needs meaningful evidence, not just a status change. Backlogs should expose risk, deferrals and resource constraints. Protect safety-critical assurance from administrative closure.

Worked example. A work order says complete but contains no measurement, test result or technician record.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Improve a fictional maintenance record and prioritise a small backlog.

Model answer guide. Require asset identity, scope, condition, work evidence, unresolved defects and responsible acceptance.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Improve a fictional maintenance record and prioritise a small backlog.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of maintenance planning and cmms?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about maintenance planning and cmms?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about maintenance planning and cmms be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating maintenance planning and cmms?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in maintenance planning and cmms?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning maintenance planning and cmms?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for maintenance planning and cmms. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on maintenance planning and cmms contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about maintenance planning and cmms?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in maintenance planning and cmms?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Certificate in Offshore Maintenance Planning: Evidence and Decision Gates

Learning objectives

- Explain certificate in offshore maintenance planning: evidence and decision gates, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Maintenance Planning: Evidence and Decision Gates
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Maintenance Planning

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Maintenance Planning: Evidence and Decision Gates describes a practical part of Certificate in Offshore Maintenance Planning. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore maintenance planning: evidence and decision gates. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore maintenance planning: evidence and decision gates while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore maintenance planning: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore maintenance planning: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore maintenance planning: evidence and decision gates?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore maintenance planning: evidence and decision gates?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore maintenance planning: evidence and decision gates be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore maintenance planning: evidence and decision gates?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore maintenance planning: evidence and decision gates?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore maintenance planning: evidence and decision gates?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore maintenance planning: evidence and decision gates. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore maintenance planning: evidence and decision gates contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore maintenance planning: evidence and decision gates?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore maintenance planning: evidence and decision gates?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Certificate in Offshore Maintenance Planning: Work Planning

Learning objectives

- Explain certificate in offshore maintenance planning: work planning, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Maintenance Planning: Work Planning
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Maintenance Planning

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Maintenance Planning: Work Planning describes a practical part of Certificate in Offshore Maintenance Planning. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore maintenance planning: work planning. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore maintenance planning: work planning while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore maintenance planning: work planning: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore maintenance planning: work planning: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore maintenance planning: work planning?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore maintenance planning: work planning?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore maintenance planning: work planning be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore maintenance planning: work planning?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore maintenance planning: work planning?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore maintenance planning: work planning?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore maintenance planning: work planning. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore maintenance planning: work planning contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore maintenance planning: work planning?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore maintenance planning: work planning?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Reliability centred maintenance

Learning objectives

- Explain reliability centred maintenance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Reliability centred maintenance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Maintenance Planning

Teaching notes

Teaching notes

Core explanation. RCM begins with required functions, functional failures, failure modes and consequences. Maintenance tasks should be applicable and effective for the failure mode. Calendar replacement is one option, not a universal solution.

Decision logic. Compare condition-based tasks, scheduled restoration, failure-finding, redesign and justified run-to-failure. Hidden protective failures require particular attention. Explain why an attractive maintenance schedule may not address the dominant failure mechanism.

Worked example. A standby protective device rarely operates, so lack of breakdown reports does not demonstrate availability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a function-failure-task table for a fictional standby system.

Model answer guide. Include hidden failure, consequence, detection method, interval rationale and review responsibility.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a function-failure-task table for a fictional standby system.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of reliability centred maintenance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about reliability centred maintenance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about reliability centred maintenance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating reliability centred maintenance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in reliability centred maintenance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning reliability centred maintenance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for reliability centred maintenance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on reliability centred maintenance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about reliability centred maintenance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in reliability centred maintenance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Turnaround and shutdown management

Learning objectives

- Explain turnaround and shutdown management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Turnaround and shutdown management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Maintenance Planning

Teaching notes

Teaching notes

Core explanation. Turnarounds combine inspection, maintenance and modifications during planned downtime. Scope definition, isolation, resources, logistics and reinstatement are tightly linked. Explain freeze dates, emergent work and critical-path control.

Decision logic. Prioritise justified scope and control changes. Startup readiness needs verified reinstatement and testing; completion percentages do not prove a system is ready. Contractors and operations must share clear boundaries, handovers and emergency arrangements.

Worked example. An emergent defect requires repair that affects another contractor's access and the restart sequence.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Build a shutdown plan with a change decision and reinstatement checklist.

Model answer guide. Include isolation, dependencies, quality records, testing, handover and authorised startup acceptance.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Build a shutdown plan with a change decision and reinstatement checklist.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of turnaround and shutdown management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about turnaround and shutdown management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about turnaround and shutdown management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating turnaround and shutdown management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in turnaround and shutdown management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning turnaround and shutdown management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for turnaround and shutdown management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on turnaround and shutdown management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about turnaround and shutdown management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in turnaround and shutdown management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Certificate in Offshore Maintenance Planning: Communication and Escalation

Learning objectives

- Explain certificate in offshore maintenance planning: communication and escalation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Maintenance Planning: Communication and Escalation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Maintenance Planning

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Maintenance Planning: Communication and Escalation describes a practical part of Certificate in Offshore Maintenance Planning. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore maintenance planning: communication and escalation. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore maintenance planning: communication and escalation while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore maintenance planning: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore maintenance planning: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore maintenance planning: communication and escalation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore maintenance planning: communication and escalation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore maintenance planning: communication and escalation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore maintenance planning: communication and escalation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore maintenance planning: communication and escalation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore maintenance planning: communication and escalation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore maintenance planning: communication and escalation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore maintenance planning: communication and escalation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore maintenance planning: communication and escalation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore maintenance planning: communication and escalation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Planning scheduling and critical path

Learning objectives

- Explain planning scheduling and critical path, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Planning scheduling and critical path
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Maintenance Planning

Teaching notes

Teaching notes

Core explanation. A schedule links activities through dependencies, durations, calendars and resources. Critical path identifies the longest duration path under the model's assumptions. Float is a calculated property, not spare time owned automatically by one team.

Decision logic. Validate logic before trusting dates. Resource constraints and uncertain weather windows can change the critical path. Compression may add cost or risk. State assumptions and update from actual progress rather than forcing the plan to match a desired date.

Worked example. Path A takes 3 plus 4 days; parallel path B takes 5 days. The simplified project duration is 7 days.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate duration after A's first task increases to 5 days.

Model answer guide. The A path becomes 9 days; assess downstream effects and valid recovery choices.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Calculate duration after A's first task increases to 5 days.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of planning scheduling and critical path?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about planning scheduling and critical path?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about planning scheduling and critical path be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating planning scheduling and critical path?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in planning scheduling and critical path?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning planning scheduling and critical path?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for planning scheduling and critical path. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on planning scheduling and critical path contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about planning scheduling and critical path?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in planning scheduling and critical path?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Offshore Maintenance Planning: Competence Review

Learning objectives

- Explain certificate in offshore maintenance planning: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Maintenance Planning: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Maintenance Planning

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Maintenance Planning: Competence Review describes a practical part of Certificate in Offshore Maintenance Planning. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore maintenance planning: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore maintenance planning: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore maintenance planning: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore maintenance planning: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore maintenance planning: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore maintenance planning: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore maintenance planning: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore maintenance planning: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore maintenance planning: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore maintenance planning: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore maintenance planning: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore maintenance planning: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore maintenance planning: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore maintenance planning: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X13 | Certificate in Petroleum Production Optimisation

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Petroleum Production Optimisation, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Petroleum Production Optimisation.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Certificate in Petroleum Production Optimisation: Core Concepts

Learning objectives

- Explain certificate in petroleum production optimisation: core concepts, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Petroleum Production Optimisation: Core Concepts
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Production Optimisation

Teaching notes

Teaching notes

Core explanation. Certificate in Petroleum Production Optimisation: Core Concepts describes a practical part of Certificate in Petroleum Production Optimisation. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in petroleum production optimisation: core concepts. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in petroleum production optimisation: core concepts while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in petroleum production optimisation: core concepts: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in petroleum production optimisation: core concepts: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in petroleum production optimisation: core concepts?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in petroleum production optimisation: core concepts?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in petroleum production optimisation: core concepts be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in petroleum production optimisation: core concepts?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in petroleum production optimisation: core concepts?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in petroleum production optimisation: core concepts?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in petroleum production optimisation: core concepts. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in petroleum production optimisation: core concepts contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in petroleum production optimisation: core concepts?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in petroleum production optimisation: core concepts?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Production forecasting

Learning objectives

- Explain production forecasting, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Production forecasting
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Production Optimisation

Teaching notes

Teaching notes

Core explanation. Forecasts combine reservoir behaviour, well availability, ramp-up, capacity constraints and downtime. Distinguish potential reservoir production from saleable output. State units, time basis and whether rates are instantaneous, daily averages or annual totals.

Decision logic. Build low, base and high cases with internally consistent constraints. Bottlenecks can shift as water production rises. Compare forecast to observed history when available and track revisions with reasons. Do not assign actual Namibian first-oil dates from classroom scenarios.

Worked example. A system with 100,000 barrels/day potential and 90% availability yields 90,000 barrels/day average before other constraints.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a one-year forecast with availability falling to 80% for three months.

Model answer guide. Calculate period-weighted output and explain facility versus reservoir constraints separately.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a one-year forecast with availability falling to 80% for three months.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of production forecasting?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about production forecasting?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about production forecasting be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating production forecasting?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in production forecasting?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning production forecasting?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for production forecasting. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on production forecasting contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about production forecasting?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in production forecasting?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Certificate in Petroleum Production Optimisation: Systems and Interfaces

Learning objectives

- Explain certificate in petroleum production optimisation: systems and interfaces, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Petroleum Production Optimisation: Systems and Interfaces
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Production Optimisation

Teaching notes

Teaching notes

Core explanation. Certificate in Petroleum Production Optimisation: Systems and Interfaces describes a practical part of Certificate in Petroleum Production Optimisation. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in petroleum production optimisation: systems and interfaces. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in petroleum production optimisation: systems and interfaces while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in petroleum production optimisation: systems and interfaces: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in petroleum production optimisation: systems and interfaces: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in petroleum production optimisation: systems and interfaces?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in petroleum production optimisation: systems and interfaces?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in petroleum production optimisation: systems and interfaces be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in petroleum production optimisation: systems and interfaces?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in petroleum production optimisation: systems and interfaces?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in petroleum production optimisation: systems and interfaces?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in petroleum production optimisation: systems and interfaces. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in petroleum production optimisation: systems and interfaces contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in petroleum production optimisation: systems and interfaces?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in petroleum production optimisation: systems and interfaces?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Produced water and gas management

Learning objectives

- Explain produced water and gas management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Produced water and gas management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Production Optimisation

Teaching notes

Teaching notes

Core explanation. Produced water and associated gas affect processing capacity, corrosion, disposal and emissions. Explain separation, treatment, reinjection, export and permitted disposal as options with different technical and environmental implications.

Decision logic. Track total fluid rather than oil alone. Gas composition can change treatment and materials requirements. Disposal choices require permits, monitoring and assurance; no universal discharge limit is provided here. Gas flaring is not an automatic default business case.

Worked example. Oil stays at 20,000 barrels/day while water cut rises from 20% to 50%; total liquid increases from 25,000 to 40,000 barrels/day.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate water volumes and identify affected equipment.

Model answer guide. Water rises from 5,000 to 20,000 barrels/day; assess separation, pumping, treatment and disposal capacity.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Calculate water volumes and identify affected equipment.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of produced water and gas management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about produced water and gas management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about produced water and gas management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating produced water and gas management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in produced water and gas management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning produced water and gas management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for produced water and gas management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on produced water and gas management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about produced water and gas management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in produced water and gas management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Flow assurance

Learning objectives

- Explain flow assurance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Flow assurance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Production Optimisation

Teaching notes

Teaching notes

Core explanation. Flow assurance manages the ability to transport fluids through operating and transient conditions. Hydrates, wax, scale, corrosion and slugging can threaten performance. Explain the pressure-temperature-composition relationship qualitatively with a cooling pipeline sketch.

Decision logic. Assess startup, shutdown and restart as well as steady operation. Chemical treatment, insulation and operating strategies interact with facilities and environmental constraints. Classroom discussion does not prescribe inhibitor doses or live restart sequences.

Worked example. A pipeline flows normally when warm but cools during a long shutdown, changing restart risk.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Build a flow-assurance risk register for normal operation and shutdown.

Model answer guide. Include fluid data, thermal history, safeguards, monitoring and an authorised specialist review before restart.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Build a flow-assurance risk register for normal operation and shutdown.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of flow assurance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about flow assurance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about flow assurance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating flow assurance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in flow assurance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning flow assurance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for flow assurance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on flow assurance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about flow assurance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in flow assurance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Well testing and pressure interpretation

Learning objectives

- Explain well testing and pressure interpretation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Well testing and pressure interpretation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Production Optimisation

Teaching notes

Teaching notes

Core explanation. A well test records flow and pressure response to infer reservoir and well behaviour. Explain drawdown, buildup, skin and boundary effects conceptually. Measurement resolution, rate history and test duration constrain interpretation.

Decision logic. Different models can fit limited data. Use derivative behaviour and independent geology to test models rather than declaring a unique answer. Short tests may not observe distant boundaries. Operational testing requires an approved programme and safety controls.

Worked example. A short buildup appears stable but has not investigated the reservoir boundary; connectivity remains uncertain.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review a fictional test summary and list claims supported and unsupported by it.

Model answer guide. Separate local mobility evidence from field-wide connectivity and long-term deliverability claims.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review a fictional test summary and list claims supported and unsupported by it.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of well testing and pressure interpretation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about well testing and pressure interpretation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about well testing and pressure interpretation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating well testing and pressure interpretation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in well testing and pressure interpretation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning well testing and pressure interpretation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for well testing and pressure interpretation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on well testing and pressure interpretation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about well testing and pressure interpretation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in well testing and pressure interpretation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Production optimisation

Learning objectives

- Explain production optimisation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Production optimisation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Production Optimisation

Teaching notes

Teaching notes

Core explanation. Production optimisation considers reservoir inflow, wellbore outflow, gathering network and facilities together. Nodal analysis examines pressure balance across the system. The best local setting may overload shared equipment or harm recovery.

Decision logic. Use constraints and marginal value to prioritise opportunities. Validate meter quality before changing settings. Changes require operating review and controlled implementation; the classroom does not authorise adjustments to live wells or control systems.

Worked example. Opening one fictional well increases its rate but exceeds separator capacity, reducing total stable production.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Identify the system bottleneck and compare two constrained operating cases.

Model answer guide. Optimise total safe value and honour facility limits, rather than maximising each well independently.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Identify the system bottleneck and compare two constrained operating cases.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of production optimisation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about production optimisation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about production optimisation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating production optimisation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in production optimisation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning production optimisation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for production optimisation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on production optimisation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about production optimisation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in production optimisation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Industrial data architecture and governance

Learning objectives

- Explain industrial data architecture and governance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Industrial data architecture and governance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Production Optimisation

Teaching notes

Teaching notes

Core explanation. Industrial data flows from sensors through historians and integration platforms to analysis and decisions. Define asset identity, units, timestamps, quality status and ownership. A large dataset is not necessarily fit for purpose.

Decision logic. Check time synchronisation, missing values, calibration changes and access permissions before analysis. Keep provenance and revision history. Avoid transferring confidential operational data into exercises; all datasets in this package are fictional.

Worked example. A trend combines pressure in bar and kilopascals under one label, producing a false step change.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a data dictionary and quality checks for a fictional dataset.

Model answer guide. Define units, time basis, validity flags, owner and transformations; resolve inconsistent units before interpretation.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a data dictionary and quality checks for a fictional dataset.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of industrial data architecture and governance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about industrial data architecture and governance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about industrial data architecture and governance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating industrial data architecture and governance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in industrial data architecture and governance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning industrial data architecture and governance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for industrial data architecture and governance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on industrial data architecture and governance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about industrial data architecture and governance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in industrial data architecture and governance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Integrated reservoir management

Learning objectives

- Explain integrated reservoir management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Integrated reservoir management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Production Optimisation

Teaching notes

Teaching notes

Core explanation. Reservoir management links surveillance, models, wells, facilities and economics to an agreed objective. Define decision triggers and data owners. A model is useful when it helps choose an action and exposes uncertainty, not simply because it has many cells.

Decision logic. Use a closed learning cycle: predict, measure, compare, diagnose and revise. History matching can be non-unique, so retain plausible alternatives and test decisions against them. Integrate subsurface and operations teams when reviewing constraints and new evidence.

Worked example. Measured water breakthrough is earlier than predicted. Review connectivity and completion assumptions before merely adjusting a curve.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a surveillance plan with three measurements and associated decision triggers.

Model answer guide. Each measurement must connect to a management choice, owner and review frequency.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a surveillance plan with three measurements and associated decision triggers.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of integrated reservoir management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about integrated reservoir management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about integrated reservoir management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating integrated reservoir management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in integrated reservoir management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning integrated reservoir management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for integrated reservoir management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on integrated reservoir management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about integrated reservoir management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in integrated reservoir management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Petroleum Production Optimisation: Competence Review

Learning objectives

- Explain certificate in petroleum production optimisation: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Petroleum Production Optimisation: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Production Optimisation

Teaching notes

Teaching notes

Core explanation. Certificate in Petroleum Production Optimisation: Competence Review describes a practical part of Certificate in Petroleum Production Optimisation. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in petroleum production optimisation: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in petroleum production optimisation: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in petroleum production optimisation: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in petroleum production optimisation: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in petroleum production optimisation: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in petroleum production optimisation: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in petroleum production optimisation: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in petroleum production optimisation: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in petroleum production optimisation: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in petroleum production optimisation: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in petroleum production optimisation: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in petroleum production optimisation: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in petroleum production optimisation: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in petroleum production optimisation: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X14 | Certificate in Subsea Controls and Instrumentation

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Subsea Controls and Instrumentation, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Subsea Controls and Instrumentation.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Umbilicals and subsea control systems

Learning objectives

- Explain umbilicals and subsea control systems, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Umbilicals and subsea control systems
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Subsea Controls and Instrumentation

Teaching notes

Teaching notes

Core explanation. Umbilicals transmit combinations of power, communications, hydraulic service and chemicals. Subsea controls command and monitor equipment. Use a signal-and-energy diagram to separate commands, feedback and physical actuation.

Decision logic. Control philosophy must address loss of power, communications and hydraulic supply, plus the intended safe response. Check compatibility and redundancy across surface and subsea equipment. A command acknowledgement does not necessarily prove final valve position.

Worked example. A control command is received, but independent position feedback disagrees. Investigate rather than assume successful actuation.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Trace one command path and identify three failure points and their indication.

Model answer guide. Include surface control, communication, power or hydraulic supply and feedback; distinguish received command from achieved state.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Trace one command path and identify three failure points and their indication.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of umbilicals and subsea control systems?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about umbilicals and subsea control systems?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about umbilicals and subsea control systems be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating umbilicals and subsea control systems?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in umbilicals and subsea control systems?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning umbilicals and subsea control systems?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for umbilicals and subsea control systems. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on umbilicals and subsea control systems contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about umbilicals and subsea control systems?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in umbilicals and subsea control systems?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Industrial instrumentation

Learning objectives

- Explain industrial instrumentation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Industrial instrumentation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Subsea Controls and Instrumentation

Teaching notes

Teaching notes

Core explanation. Sensors and transmitters convert process conditions into signals. Teach range, span, accuracy, calibration and measurement uncertainty. Pressure, temperature, flow and level measurements use different principles and installation constraints.

Decision logic. Trace a measurement from process interface through signal conversion to display. Incorrect range or units can mislead control and operations. An apparently stable value may be frozen or invalid. Actual instrument work follows authorised isolation and manufacturer procedures.

Worked example. A 4-20 mA signal represents 0-100 units; 12 mA corresponds to 50 units under a linear mapping.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate the indicated value at 8 mA and identify assumptions.

Model answer guide. Twenty-five units with linear mapping and a valid signal; check range and status.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Calculate the indicated value at 8 mA and identify assumptions.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of industrial instrumentation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about industrial instrumentation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about industrial instrumentation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating industrial instrumentation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in industrial instrumentation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning industrial instrumentation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for industrial instrumentation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on industrial instrumentation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about industrial instrumentation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in industrial instrumentation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Offshore telecommunications

Learning objectives

- Explain offshore telecommunications, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Offshore telecommunications
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Subsea Controls and Instrumentation

Teaching notes

Teaching notes

Core explanation. Offshore communications connect voice, data, control and emergency functions through links with differing bandwidth, latency and availability. Define service requirements before selecting technology. Emergency and operational needs may require resilience independent of business traffic.

Decision logic. Create a dependency map and test loss-of-link scenarios. A redundant link is useful only if common failures are understood. Remote support needs access control and agreed authority. Do not expose real network details in course submissions.

Worked example. Two nominally redundant links share one power supply, creating a common failure point.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Design a conceptual communications matrix with primary and fallback services.

Model answer guide. Include power, physical diversity, capacity, latency, security and failure response.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Design a conceptual communications matrix with primary and fallback services.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of offshore telecommunications?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about offshore telecommunications?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about offshore telecommunications be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating offshore telecommunications?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in offshore telecommunications?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning offshore telecommunications?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for offshore telecommunications. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on offshore telecommunications contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about offshore telecommunications?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in offshore telecommunications?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Certificate in Subsea Controls and Instrumentation: Evidence and Decision Gates

Learning objectives

- Explain certificate in subsea controls and instrumentation: evidence and decision gates, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Subsea Controls and Instrumentation: Evidence and Decision Gates
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Subsea Controls and Instrumentation

Teaching notes

Teaching notes

Core explanation. Certificate in Subsea Controls and Instrumentation: Evidence and Decision Gates describes a practical part of Certificate in Subsea Controls and Instrumentation. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in subsea controls and instrumentation: evidence and decision gates. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in subsea controls and instrumentation: evidence and decision gates while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in subsea controls and instrumentation: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in subsea controls and instrumentation: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in subsea controls and instrumentation: evidence and decision gates?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in subsea controls and instrumentation: evidence and decision gates?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in subsea controls and instrumentation: evidence and decision gates be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in subsea controls and instrumentation: evidence and decision gates?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in subsea controls and instrumentation: evidence and decision gates?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in subsea controls and instrumentation: evidence and decision gates?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in subsea controls and instrumentation: evidence and decision gates. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in subsea controls and instrumentation: evidence and decision gates contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in subsea controls and instrumentation: evidence and decision gates?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in subsea controls and instrumentation: evidence and decision gates?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Certificate in Subsea Controls and Instrumentation: Work Planning

Learning objectives

- Explain certificate in subsea controls and instrumentation: work planning, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Subsea Controls and Instrumentation: Work Planning
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Subsea Controls and Instrumentation

Teaching notes

Teaching notes

Core explanation. Certificate in Subsea Controls and Instrumentation: Work Planning describes a practical part of Certificate in Subsea Controls and Instrumentation. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in subsea controls and instrumentation: work planning. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in subsea controls and instrumentation: work planning while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in subsea controls and instrumentation: work planning: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in subsea controls and instrumentation: work planning: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in subsea controls and instrumentation: work planning?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in subsea controls and instrumentation: work planning?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in subsea controls and instrumentation: work planning be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in subsea controls and instrumentation: work planning?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in subsea controls and instrumentation: work planning?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in subsea controls and instrumentation: work planning?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in subsea controls and instrumentation: work planning. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in subsea controls and instrumentation: work planning contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in subsea controls and instrumentation: work planning?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in subsea controls and instrumentation: work planning?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: SCADA DCS and integrated control systems

Learning objectives

- Explain scada dcs and integrated control systems, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of SCADA DCS and integrated control systems
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Subsea Controls and Instrumentation

Teaching notes

Teaching notes

Core explanation. Control systems acquire signals, execute logic and support operator actions. SCADA, DCS and integrated control architectures differ by context; safety functions require appropriate separation and assurance. Explain sensor, controller, final element and human interface.

Decision logic. Alarm and control design must match process needs and human capability. More alarms do not necessarily improve safety. Changes to logic require controlled review, testing and approval. This course uses simulation only and provides no live-system modification instructions.

Worked example. An alarm floods the operator screen during a simulated upset, obscuring the initiating condition.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Map a control loop and evaluate an alarm list for prioritisation questions.

Model answer guide. Identify measurement, logic, final element and feedback, with rationalised alarms and change control.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Map a control loop and evaluate an alarm list for prioritisation questions.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of scada dcs and integrated control systems?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about scada dcs and integrated control systems?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about scada dcs and integrated control systems be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating scada dcs and integrated control systems?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in scada dcs and integrated control systems?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning scada dcs and integrated control systems?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for scada dcs and integrated control systems. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on scada dcs and integrated control systems contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about scada dcs and integrated control systems?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in scada dcs and integrated control systems?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Well control and barrier management

Learning objectives

- Explain well control and barrier management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Well control and barrier management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Subsea Controls and Instrumentation

Teaching notes

Teaching notes

Core explanation. A barrier system prevents unintended fluid flow. Show primary and secondary barrier envelopes and the need for defined performance standards. Recognising indications, reporting promptly and following the authorised well-control programme are distinct from being certified to operate equipment.

Decision logic. Teach barrier status with evidence, not equipment names alone. An installed component may be unavailable, untested or outside its operating envelope. Barrier changes require controlled review. No live well-control drill or shut-in sequence is prescribed by this awareness content.

Worked example. A component appears on the drawing, but its required test record is missing. Treat its verified availability as unresolved.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Construct a barrier-status register from a fictional well diagram.

Model answer guide. Record function, verification, owner, limitation and escalation; do not mark an unverified barrier healthy.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Construct a barrier-status register from a fictional well diagram.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of well control and barrier management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about well control and barrier management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about well control and barrier management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating well control and barrier management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in well control and barrier management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning well control and barrier management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for well control and barrier management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on well control and barrier management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about well control and barrier management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in well control and barrier management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Certificate in Subsea Controls and Instrumentation: Communication and Escalation

Learning objectives

- Explain certificate in subsea controls and instrumentation: communication and escalation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Subsea Controls and Instrumentation: Communication and Escalation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Subsea Controls and Instrumentation

Teaching notes

Teaching notes

Core explanation. Certificate in Subsea Controls and Instrumentation: Communication and Escalation describes a practical part of Certificate in Subsea Controls and Instrumentation. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in subsea controls and instrumentation: communication and escalation. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in subsea controls and instrumentation: communication and escalation while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in subsea controls and instrumentation: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in subsea controls and instrumentation: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in subsea controls and instrumentation: communication and escalation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in subsea controls and instrumentation: communication and escalation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in subsea controls and instrumentation: communication and escalation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in subsea controls and instrumentation: communication and escalation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in subsea controls and instrumentation: communication and escalation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in subsea controls and instrumentation: communication and escalation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in subsea controls and instrumentation: communication and escalation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in subsea controls and instrumentation: communication and escalation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in subsea controls and instrumentation: communication and escalation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in subsea controls and instrumentation: communication and escalation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Certificate in Subsea Controls and Instrumentation: Knowledge Check

Learning objectives

- Explain certificate in subsea controls and instrumentation: knowledge check, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Subsea Controls and Instrumentation: Knowledge Check
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Subsea Controls and Instrumentation

Teaching notes

Teaching notes

Core explanation. Certificate in Subsea Controls and Instrumentation: Knowledge Check describes a practical part of Certificate in Subsea Controls and Instrumentation. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in subsea controls and instrumentation: knowledge check. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in subsea controls and instrumentation: knowledge check while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in subsea controls and instrumentation: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in subsea controls and instrumentation: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in subsea controls and instrumentation: knowledge check?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in subsea controls and instrumentation: knowledge check?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in subsea controls and instrumentation: knowledge check be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in subsea controls and instrumentation: knowledge check?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in subsea controls and instrumentation: knowledge check?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in subsea controls and instrumentation: knowledge check?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in subsea controls and instrumentation: knowledge check. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in subsea controls and instrumentation: knowledge check contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in subsea controls and instrumentation: knowledge check?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in subsea controls and instrumentation: knowledge check?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Subsea Controls and Instrumentation: Competence Review

Learning objectives

- Explain certificate in subsea controls and instrumentation: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Subsea Controls and Instrumentation: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Subsea Controls and Instrumentation

Teaching notes

Teaching notes

Core explanation. Certificate in Subsea Controls and Instrumentation: Competence Review describes a practical part of Certificate in Subsea Controls and Instrumentation. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in subsea controls and instrumentation: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in subsea controls and instrumentation: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in subsea controls and instrumentation: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in subsea controls and instrumentation: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in subsea controls and instrumentation: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in subsea controls and instrumentation: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in subsea controls and instrumentation: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in subsea controls and instrumentation: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in subsea controls and instrumentation: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in subsea controls and instrumentation: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in subsea controls and instrumentation: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in subsea controls and instrumentation: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in subsea controls and instrumentation: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in subsea controls and instrumentation: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X15 | Certificate in Energy Procurement and Contract Administration

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Energy Procurement and Contract Administration, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Energy Procurement and Contract Administration.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Procurement and supplier qualification

Learning objectives

- Explain procurement and supplier qualification, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Procurement and supplier qualification
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Procurement and Contract Administration

Teaching notes

Teaching notes

Core explanation. Procurement translates a defined need into sourcing, evaluation, award and contract management. Separate mandatory eligibility, technical acceptance and commercial comparison. Clear specifications and evaluation criteria should exist before bids are opened.

Decision logic. Manage conflicts, confidentiality and fair treatment. Lowest price may not be lowest evaluated cost if quality, delivery and lifecycle support differ. Document decisions and follow delegated authority; this classroom exercise awards no real contracts.

Worked example. A low bid excludes offshore mobilisation while another includes it.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Normalise three fictional bids and prepare an evaluation recommendation.

Model answer guide. Compare like-for-like scope, clarify exclusions and include risk with an auditable decision basis.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Normalise three fictional bids and prepare an evaluation recommendation.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of procurement and supplier qualification?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about procurement and supplier qualification?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about procurement and supplier qualification be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating procurement and supplier qualification?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in procurement and supplier qualification?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning procurement and supplier qualification?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for procurement and supplier qualification. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on procurement and supplier qualification contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about procurement and supplier qualification?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in procurement and supplier qualification?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Contract strategy and risk allocation

Learning objectives

- Explain contract strategy and risk allocation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Contract strategy and risk allocation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Procurement and Contract Administration

Teaching notes

Teaching notes

Core explanation. Contracts define scope, deliverables, payment, acceptance, change and remedies. Lump sum, reimbursable and target-cost arrangements allocate uncertainty differently. Begin with scope maturity and market capability rather than choosing a familiar contract label.

Decision logic. Risk should be allocated to parties able to manage it, with realistic pricing and assurance. Unclear interfaces create disputes despite detailed clauses. Actual indemnity, liability, insurance and governing-law terms require qualified legal and commercial review.

Worked example. A supplier prices an undefined offshore interface as an exclusion; the owner's total risk remains unresolved.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Draft a scope and interface schedule for a fictional package.

Model answer guide. Include deliverables, acceptance evidence, owner interfaces, change control and exclusions.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Draft a scope and interface schedule for a fictional package.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of contract strategy and risk allocation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about contract strategy and risk allocation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about contract strategy and risk allocation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating contract strategy and risk allocation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in contract strategy and risk allocation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning contract strategy and risk allocation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for contract strategy and risk allocation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on contract strategy and risk allocation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about contract strategy and risk allocation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in contract strategy and risk allocation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Contract and vendor performance

Learning objectives

- Explain contract and vendor performance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Contract and vendor performance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Procurement and Contract Administration

Teaching notes

Teaching notes

Core explanation. Vendor management checks delivery against agreed scope, quality, schedule, HSE and commercial terms. Define measurable acceptance criteria and evidence. Relationship quality helps but does not replace objective verification.

Decision logic. Use proportionate reviews, corrective actions and escalation. Indicators can conflict: on-time delivery of defective items is poor performance. Changes require controlled agreement. Preserve records needed for payment, warranty and learning.

Worked example. A supplier meets delivery dates but repeatedly submits incomplete quality dossiers.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Develop a balanced performance scorecard and corrective-action request.

Model answer guide. Include first-time quality, documentation, delivery and action effectiveness with accountable dates.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Develop a balanced performance scorecard and corrective-action request.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of contract and vendor performance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about contract and vendor performance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about contract and vendor performance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating contract and vendor performance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in contract and vendor performance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning contract and vendor performance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for contract and vendor performance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on contract and vendor performance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about contract and vendor performance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in contract and vendor performance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Scope and work breakdown structures

Learning objectives

- Explain scope and work breakdown structures, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Scope and work breakdown structures
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Procurement and Contract Administration

Teaching notes

Teaching notes

Core explanation. Scope defines required outputs and boundaries. A WBS decomposes deliverables into manageable work packages; a dictionary clarifies content, exclusions and acceptance. Activities are derived from scope rather than substituted for it.

Decision logic. Trace requirements to deliverables and verification. Check for omissions, overlap and owner interfaces. Scope changes should assess cost, schedule, risk and benefits before approval. A detailed WBS is useful only when it supports responsibility and control.

Worked example. Two teams both assume the other supplies offshore installation support.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Build a WBS and dictionary entry resolving the missing interface.

Model answer guide. Assign the deliverable, acceptance evidence, owner and boundary explicitly.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Build a WBS and dictionary entry resolving the missing interface.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of scope and work breakdown structures?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about scope and work breakdown structures?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about scope and work breakdown structures be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating scope and work breakdown structures?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in scope and work breakdown structures?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning scope and work breakdown structures?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for scope and work breakdown structures. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on scope and work breakdown structures contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about scope and work breakdown structures?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in scope and work breakdown structures?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: CAPEX OPEX and estimating

Learning objectives

- Explain capex opex and estimating, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of CAPEX OPEX and estimating
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Procurement and Contract Administration

Teaching notes

Teaching notes

Core explanation. Capital estimates cover assets and development; operating estimates cover recurring delivery and support activities. Define scope, price basis, location, currency, schedule and exclusions before estimating. A number without its basis is difficult to review.

Decision logic. Use analogous, parametric and bottom-up methods according to data maturity. Separate base estimate, identified risk contingency and other reserves under the adopted governance. Avoid implying that contingency is spare money for scope additions.

Worked example. A fictional equipment package is 10 million and installation is estimated at 40% of equipment cost; subtotal is 14 million before other scope.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Write an estimate basis and identify five excluded cost items.

Model answer guide. Include logistics, commissioning, taxes, spares and owner costs where appropriate; state assumptions rather than silently adding them.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Write an estimate basis and identify five excluded cost items.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of capex opex and estimating?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about capex opex and estimating?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about capex opex and estimating be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating capex opex and estimating?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in capex opex and estimating?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning capex opex and estimating?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for capex opex and estimating. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on capex opex and estimating contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about capex opex and estimating?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in capex opex and estimating?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Certificate in Energy Procurement and Contract Administration: Data and Performance

Learning objectives

- Explain certificate in energy procurement and contract administration: data and performance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Energy Procurement and Contract Administration: Data and Performance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Procurement and Contract Administration

Teaching notes

Teaching notes

Core explanation. Certificate in Energy Procurement and Contract Administration: Data and Performance describes a practical part of Certificate in Energy Procurement and Contract Administration. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in energy procurement and contract administration: data and performance. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in energy procurement and contract administration: data and performance while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in energy procurement and contract administration: data and performance: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in energy procurement and contract administration: data and performance: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in energy procurement and contract administration: data and performance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in energy procurement and contract administration: data and performance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in energy procurement and contract administration: data and performance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in energy procurement and contract administration: data and performance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in energy procurement and contract administration: data and performance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in energy procurement and contract administration: data and performance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in energy procurement and contract administration: data and performance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in energy procurement and contract administration: data and performance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in energy procurement and contract administration: data and performance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in energy procurement and contract administration: data and performance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Project quality and acceptance

Learning objectives

- Explain project quality and acceptance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Project quality and acceptance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Procurement and Contract Administration

Teaching notes

Teaching notes

Core explanation. Quality planning defines requirements, methods and evidence for conformance. Assurance evaluates the system; control checks outputs. Inspection and test plans use hold and witness points appropriate to consequence and scope.

Decision logic. Trace requirements through supplier records, fabrication, testing and handover. A test result must identify what was tested and against which criterion. Do not invent acceptance limits from generic training notes. Nonconformities require controlled disposition.

Worked example. A certificate reports a successful test but omits item identification and the acceptance basis.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review the fictional dossier and write a nonconformity and closure requirement.

Model answer guide. Require traceable identity, approved criteria, valid method and authorised disposition.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review the fictional dossier and write a nonconformity and closure requirement.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of project quality and acceptance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about project quality and acceptance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about project quality and acceptance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating project quality and acceptance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in project quality and acceptance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning project quality and acceptance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for project quality and acceptance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on project quality and acceptance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about project quality and acceptance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in project quality and acceptance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Risk assessment and uncertainty management

Learning objectives

- Explain risk assessment and uncertainty management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Risk assessment and uncertainty management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Procurement and Contract Administration

Teaching notes

Teaching notes

Core explanation. Define the activity and potential harm, identify hazards, evaluate existing controls, then decide further controls and ownership. A risk matrix supports prioritisation but does not prove a risk is tolerable. Include affected people and changing conditions.

Decision logic. Test whether controls are present and effective. Residual risk should be reassessed after control implementation, not merely after a promise. Escalate high-consequence uncertainty for competent review. Project risk also includes schedule, cost and opportunity effects.

Worked example. A permit lists a barrier that has not yet been installed. The claimed residual risk is premature.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Complete a risk register with cause, event, consequence, control, owner and verification.

Model answer guide. Keep hazard and consequence distinct and require evidence before taking control credit.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Complete a risk register with cause, event, consequence, control, owner and verification.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of risk assessment and uncertainty management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about risk assessment and uncertainty management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about risk assessment and uncertainty management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating risk assessment and uncertainty management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in risk assessment and uncertainty management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning risk assessment and uncertainty management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for risk assessment and uncertainty management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on risk assessment and uncertainty management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about risk assessment and uncertainty management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in risk assessment and uncertainty management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Local content and national value

Learning objectives

- Explain local content and national value, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Local content and national value
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Procurement and Contract Administration

Teaching notes

Teaching notes

Core explanation. Local content can include employment, skills, supplier participation and durable industrial capability. Distinguish domestic ownership, local expenditure and actual value retained locally. A purchase from a locally registered importer may contain little domestic production.

Decision logic. Measure outcomes with a defined boundary, baseline and evidence. Avoid assuming a proposed policy target is current law. Supplier development must protect quality and safety while building realistic capacity and fair access.

Worked example. A fictional USD 1 million local invoice contains USD 850,000 imported equipment and USD 150,000 local services.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate the local-service share and propose more meaningful indicators.

Model answer guide. Fifteen percent in this simplified boundary; employment, skills and retained value need separate evidence.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Calculate the local-service share and propose more meaningful indicators.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of local content and national value?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about local content and national value?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about local content and national value be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating local content and national value?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in local content and national value?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning local content and national value?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for local content and national value. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on local content and national value contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about local content and national value?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in local content and national value?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Energy Procurement and Contract Administration: Competence Review

Learning objectives

- Explain certificate in energy procurement and contract administration: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Energy Procurement and Contract Administration: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Procurement and Contract Administration

Teaching notes

Teaching notes

Core explanation. Certificate in Energy Procurement and Contract Administration: Competence Review describes a practical part of Certificate in Energy Procurement and Contract Administration. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in energy procurement and contract administration: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in energy procurement and contract administration: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in energy procurement and contract administration: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in energy procurement and contract administration: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in energy procurement and contract administration: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in energy procurement and contract administration: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in energy procurement and contract administration: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in energy procurement and contract administration: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in energy procurement and contract administration: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in energy procurement and contract administration: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in energy procurement and contract administration: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in energy procurement and contract administration: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in energy procurement and contract administration: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in energy procurement and contract administration: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X16 | Certificate in Petroleum Revenue and Public Finance

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Petroleum Revenue and Public Finance, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Petroleum Revenue and Public Finance.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Revenue stewardship and intergenerational value

Learning objectives

- Explain revenue stewardship and intergenerational value, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Revenue stewardship and intergenerational value
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Revenue and Public Finance

Teaching notes

Teaching notes

Core explanation. Petroleum revenue can be volatile, delayed and uncertain. Budget planning should distinguish gross project sales from actual public receipts. Discuss stabilisation, saving, expenditure quality and transparency as policy design choices rather than prescribed legal arrangements.

Decision logic. Stress test revenue forecasts against price, timing, cost and production changes. Evaluate who bears downside risk and how public commitments are funded before revenues arrive. Governance and oversight are as important as the name of a fund.

Worked example. A fictional budget assumes 100 revenue units, but delayed startup reduces receipts to 20 in the planned year.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Develop a downside budget scenario and two safeguards against premature commitments.

Model answer guide. Include conservative planning, contingent commitments, transparent reporting and defined oversight.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Develop a downside budget scenario and two safeguards against premature commitments.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of revenue stewardship and intergenerational value?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about revenue stewardship and intergenerational value?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about revenue stewardship and intergenerational value be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating revenue stewardship and intergenerational value?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in revenue stewardship and intergenerational value?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning revenue stewardship and intergenerational value?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for revenue stewardship and intergenerational value. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on revenue stewardship and intergenerational value contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about revenue stewardship and intergenerational value?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in revenue stewardship and intergenerational value?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Royalties taxes and government take

Learning objectives

- Explain royalties taxes and government take, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Royalties taxes and government take
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Revenue and Public Finance

Teaching notes

Teaching notes

Core explanation. Fiscal systems allocate project value between investors and the state through mechanisms such as royalties, taxes, bonuses or contractual sharing. Compare mechanisms conceptually. Do not assume a production-sharing system applies to Namibia or import tax rates from another jurisdiction.

Decision logic. Model the actual legal and contractual hierarchy only after specialist verification. Government take depends on timing, cost recovery, deductions and price as well as headline rates. Keep illustrative fiscal cases visibly separate from current law.

Worked example. In a fictional classroom system, 5% royalty on USD 100 revenue is USD 5. This assumption is not a statement of Namibian law.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Compare a gross-revenue royalty with a profit-based levy using two cost scenarios.

Model answer guide. Royalty remains linked to gross revenue while profit-based payments change with allowed costs; note legal definitions matter.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Compare a gross-revenue royalty with a profit-based levy using two cost scenarios.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of royalties taxes and government take?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about royalties taxes and government take?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about royalties taxes and government take be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating royalties taxes and government take?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in royalties taxes and government take?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning royalties taxes and government take?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for royalties taxes and government take. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on royalties taxes and government take contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about royalties taxes and government take?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in royalties taxes and government take?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Certificate in Petroleum Revenue and Public Finance: Systems and Interfaces

Learning objectives

- Explain certificate in petroleum revenue and public finance: systems and interfaces, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Petroleum Revenue and Public Finance: Systems and Interfaces
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Revenue and Public Finance

Teaching notes

Teaching notes

Core explanation. Certificate in Petroleum Revenue and Public Finance: Systems and Interfaces describes a practical part of Certificate in Petroleum Revenue and Public Finance. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in petroleum revenue and public finance: systems and interfaces. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in petroleum revenue and public finance: systems and interfaces while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in petroleum revenue and public finance: systems and interfaces: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in petroleum revenue and public finance: systems and interfaces: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in petroleum revenue and public finance: systems and interfaces?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in petroleum revenue and public finance: systems and interfaces?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in petroleum revenue and public finance: systems and interfaces be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in petroleum revenue and public finance: systems and interfaces?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in petroleum revenue and public finance: systems and interfaces?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in petroleum revenue and public finance: systems and interfaces?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in petroleum revenue and public finance: systems and interfaces. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in petroleum revenue and public finance: systems and interfaces contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in petroleum revenue and public finance: systems and interfaces?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in petroleum revenue and public finance: systems and interfaces?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Certificate in Petroleum Revenue and Public Finance: Evidence and Decision Gates

Learning objectives

- Explain certificate in petroleum revenue and public finance: evidence and decision gates, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Petroleum Revenue and Public Finance: Evidence and Decision Gates
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Revenue and Public Finance

Teaching notes

Teaching notes

Core explanation. Certificate in Petroleum Revenue and Public Finance: Evidence and Decision Gates describes a practical part of Certificate in Petroleum Revenue and Public Finance. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in petroleum revenue and public finance: evidence and decision gates. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in petroleum revenue and public finance: evidence and decision gates while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in petroleum revenue and public finance: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in petroleum revenue and public finance: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in petroleum revenue and public finance: evidence and decision gates?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in petroleum revenue and public finance: evidence and decision gates?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in petroleum revenue and public finance: evidence and decision gates be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in petroleum revenue and public finance: evidence and decision gates?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in petroleum revenue and public finance: evidence and decision gates?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in petroleum revenue and public finance: evidence and decision gates?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in petroleum revenue and public finance: evidence and decision gates. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in petroleum revenue and public finance: evidence and decision gates contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in petroleum revenue and public finance: evidence and decision gates?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in petroleum revenue and public finance: evidence and decision gates?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: NPV IRR and payback

Learning objectives

- Explain npv irr and payback, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of NPV IRR and payback
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Revenue and Public Finance

Teaching notes

Teaching notes

Core explanation. Net present value discounts dated cash flows at a stated rate. Internal rate of return is a rate making NPV zero and may be ambiguous for unusual cash-flow patterns. Payback measures recovery timing and ignores some value effects.

Decision logic. Compare projects using consistent perspective, currency and risk assumptions. NPV scale and capital constraints matter; ranking by IRR alone can mislead. Real cash flows require a compatible real discount rate and nominal flows a compatible nominal rate.

Worked example. Minus 100 now and plus 121 after two years has zero NPV at 10% because 121 divided by 1.1 squared equals 100.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate NPV at 5% and explain why the result changes.

Model answer guide. NPV is about 9.75; a lower discount rate increases the present value of the future receipt.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Calculate NPV at 5% and explain why the result changes.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of npv irr and payback?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about npv irr and payback?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about npv irr and payback be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating npv irr and payback?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in npv irr and payback?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning npv irr and payback?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for npv irr and payback. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on npv irr and payback contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about npv irr and payback?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in npv irr and payback?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Petroleum legislative architecture

Learning objectives

- Explain petroleum legislative architecture, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Petroleum legislative architecture
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Revenue and Public Finance

Teaching notes

Teaching notes

Core explanation. Distinguish legislation, regulations, licence conditions, contracts and internal procedures. Public-law obligations and private agreements serve different functions. A commercial agreement cannot be assumed to waive a statutory requirement. Identify which authority and jurisdiction govern each issue.

Decision logic. Teach a verification method rather than unverified current legal rules: locate the official instrument, record amendment and commencement status, confirm applicability, and obtain qualified review. Classroom comparisons of concessions and PSAs are not statements of Namibia's adopted system.

Worked example. A contract refers to an old environmental instrument; the legal register must check current requirements before relying on it.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a legal-register template for exploration, development and operations.

Model answer guide. Include instrument, version, duty, applicability, owner, evidence and next review date.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a legal-register template for exploration, development and operations.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of petroleum legislative architecture?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about petroleum legislative architecture?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about petroleum legislative architecture be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating petroleum legislative architecture?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in petroleum legislative architecture?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning petroleum legislative architecture?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for petroleum legislative architecture. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on petroleum legislative architecture contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about petroleum legislative architecture?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in petroleum legislative architecture?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Certificate in Petroleum Revenue and Public Finance: Applied Case

Learning objectives

- Explain certificate in petroleum revenue and public finance: applied case, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Petroleum Revenue and Public Finance: Applied Case
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Revenue and Public Finance

Teaching notes

Teaching notes

Core explanation. Certificate in Petroleum Revenue and Public Finance: Applied Case describes a practical part of Certificate in Petroleum Revenue and Public Finance. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in petroleum revenue and public finance: applied case. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in petroleum revenue and public finance: applied case while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in petroleum revenue and public finance: applied case: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in petroleum revenue and public finance: applied case: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in petroleum revenue and public finance: applied case?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in petroleum revenue and public finance: applied case?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in petroleum revenue and public finance: applied case be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in petroleum revenue and public finance: applied case?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in petroleum revenue and public finance: applied case?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in petroleum revenue and public finance: applied case?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in petroleum revenue and public finance: applied case. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in petroleum revenue and public finance: applied case contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in petroleum revenue and public finance: applied case?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in petroleum revenue and public finance: applied case?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Petroleum policy and institutional governance

Learning objectives

- Explain petroleum policy and institutional governance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Petroleum policy and institutional governance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Revenue and Public Finance

Teaching notes

Teaching notes

Core explanation. Policy sets objectives, institutions assign authority, and governance creates accountability for decisions and resources. Explain government, regulator and state enterprise roles conceptually without asserting an unverified current Namibian structure.

Decision logic. Separate commercial participation from regulatory judgement and manage conflicts transparently. Define decision rights, disclosure, assurance and challenge. A strong governance design includes implementation capacity and an audit trail, not just an organisation chart.

Worked example. A fictional institution both promotes investment and evaluates its own project compliance, creating a conflict to manage.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Draft a responsibility matrix and conflict-management controls.

Model answer guide. Identify segregated decisions, independent review, declarations and public accountability where applicable.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Draft a responsibility matrix and conflict-management controls.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of petroleum policy and institutional governance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about petroleum policy and institutional governance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about petroleum policy and institutional governance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating petroleum policy and institutional governance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in petroleum policy and institutional governance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning petroleum policy and institutional governance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for petroleum policy and institutional governance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on petroleum policy and institutional governance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about petroleum policy and institutional governance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in petroleum policy and institutional governance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Risk assessment and uncertainty management

Learning objectives

- Explain risk assessment and uncertainty management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Risk assessment and uncertainty management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Revenue and Public Finance

Teaching notes

Teaching notes

Core explanation. Define the activity and potential harm, identify hazards, evaluate existing controls, then decide further controls and ownership. A risk matrix supports prioritisation but does not prove a risk is tolerable. Include affected people and changing conditions.

Decision logic. Test whether controls are present and effective. Residual risk should be reassessed after control implementation, not merely after a promise. Escalate high-consequence uncertainty for competent review. Project risk also includes schedule, cost and opportunity effects.

Worked example. A permit lists a barrier that has not yet been installed. The claimed residual risk is premature.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Complete a risk register with cause, event, consequence, control, owner and verification.

Model answer guide. Keep hazard and consequence distinct and require evidence before taking control credit.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Complete a risk register with cause, event, consequence, control, owner and verification.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of risk assessment and uncertainty management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about risk assessment and uncertainty management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about risk assessment and uncertainty management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating risk assessment and uncertainty management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in risk assessment and uncertainty management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning risk assessment and uncertainty management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for risk assessment and uncertainty management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on risk assessment and uncertainty management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about risk assessment and uncertainty management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in risk assessment and uncertainty management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Petroleum Revenue and Public Finance: Competence Review

Learning objectives

- Explain certificate in petroleum revenue and public finance: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Petroleum Revenue and Public Finance: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Revenue and Public Finance

Teaching notes

Teaching notes

Core explanation. Certificate in Petroleum Revenue and Public Finance: Competence Review describes a practical part of Certificate in Petroleum Revenue and Public Finance. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in petroleum revenue and public finance: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in petroleum revenue and public finance: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in petroleum revenue and public finance: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in petroleum revenue and public finance: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in petroleum revenue and public finance: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in petroleum revenue and public finance: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in petroleum revenue and public finance: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in petroleum revenue and public finance: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in petroleum revenue and public finance: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in petroleum revenue and public finance: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in petroleum revenue and public finance: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in petroleum revenue and public finance: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in petroleum revenue and public finance: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in petroleum revenue and public finance: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X17 | Certificate in Oil Spill Preparedness and Response Planning

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Oil Spill Preparedness and Response Planning, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Oil Spill Preparedness and Response Planning.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Oil spill prevention and response awareness

Learning objectives

- Explain oil spill prevention and response awareness, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Oil spill prevention and response awareness
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Oil Spill Preparedness and Response Planning

Teaching notes

Teaching notes

Core explanation. Spill prevention addresses containment, transfer interfaces, equipment integrity and human actions. Response aims to protect people, prioritise receptors and use suitable tactics under authorised command. Response options depend on oil, weather and access.

Decision logic. Teach notification and planning through tabletop cases. Equipment presence alone does not establish readiness. Actual deployment, dispersant use and marine operations require competent teams and applicable approvals. This course does not confer an external response qualification.

Worked example. A hose leak occurs during a fictional transfer; wind and current threaten a sensitive receptor.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a first-response decision log without activating real equipment.

Model answer guide. Prioritise safety, source control within authority, notification, verified information and coordinated response.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a first-response decision log without activating real equipment.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of oil spill prevention and response awareness?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about oil spill prevention and response awareness?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about oil spill prevention and response awareness be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating oil spill prevention and response awareness?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in oil spill prevention and response awareness?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning oil spill prevention and response awareness?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for oil spill prevention and response awareness. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on oil spill prevention and response awareness contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about oil spill prevention and response awareness?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in oil spill prevention and response awareness?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Spill modelling and response planning

Learning objectives

- Explain spill modelling and response planning, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Spill modelling and response planning
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Oil Spill Preparedness and Response Planning

Teaching notes

Teaching notes

Core explanation. Spill models estimate transport and fate under specified release, oil and environmental assumptions. They produce scenarios, not exact predictions. Explain trajectory uncertainty, weathering and the importance of current metocean data.

Decision logic. Compare multiple release and weather cases. Connect outputs to response priorities and resource needs without treating a single line as a guaranteed path. Validate model limitations and update information during actual response through competent specialists.

Worked example. Two current scenarios carry a fictional release toward different receptors; one deterministic trajectory hides that range.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Compare scenario maps described in the exercise and propose robust priorities.

Model answer guide. Identify common priorities, scenario-dependent actions, monitoring needs and uncertainty.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Compare scenario maps described in the exercise and propose robust priorities.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of spill modelling and response planning?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about spill modelling and response planning?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about spill modelling and response planning be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating spill modelling and response planning?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in spill modelling and response planning?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning spill modelling and response planning?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for spill modelling and response planning. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on spill modelling and response planning contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about spill modelling and response planning?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in spill modelling and response planning?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Shoreline protection and recovery

Learning objectives

- Explain shoreline protection and recovery, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Shoreline protection and recovery
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Oil Spill Preparedness and Response Planning

Teaching notes

Teaching notes

Core explanation. Shoreline response depends on substrate, access, ecological sensitivity, oil condition and public safety. Intervention can itself cause damage. Explain survey, prioritisation, waste handling and recovery endpoints conceptually.

Decision logic. Choose tactics through authorised environmental and operational review. Avoid assuming the most aggressive cleanup is best. Define evidence for completion and monitoring rather than promising restoration by a fixed date. No unsupervised shoreline deployment is included.

Worked example. A fragile fictional wetland may be harmed by heavy vehicles even when access would speed cleanup.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Compare protection and cleanup options and list tradeoffs.

Model answer guide. Include secondary damage, access, responder safety, waste and agreed endpoints.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Compare protection and cleanup options and list tradeoffs.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of shoreline protection and recovery?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about shoreline protection and recovery?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about shoreline protection and recovery be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating shoreline protection and recovery?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in shoreline protection and recovery?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning shoreline protection and recovery?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for shoreline protection and recovery. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on shoreline protection and recovery contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about shoreline protection and recovery?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in shoreline protection and recovery?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Certificate in Oil Spill Preparedness and Response Planning: Evidence and Decision Gates

Learning objectives

- Explain certificate in oil spill preparedness and response planning: evidence and decision gates, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Oil Spill Preparedness and Response Planning: Evidence and Decision Gates
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Oil Spill Preparedness and Response Planning

Teaching notes

Teaching notes

Core explanation. Certificate in Oil Spill Preparedness and Response Planning: Evidence and Decision Gates describes a practical part of Certificate in Oil Spill Preparedness and Response Planning. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in oil spill preparedness and response planning: evidence and decision gates. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in oil spill preparedness and response planning: evidence and decision gates while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in oil spill preparedness and response planning: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in oil spill preparedness and response planning: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in oil spill preparedness and response planning: evidence and decision gates?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in oil spill preparedness and response planning: evidence and decision gates?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in oil spill preparedness and response planning: evidence and decision gates be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in oil spill preparedness and response planning: evidence and decision gates?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in oil spill preparedness and response planning: evidence and decision gates?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in oil spill preparedness and response planning: evidence and decision gates?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in oil spill preparedness and response planning: evidence and decision gates. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in oil spill preparedness and response planning: evidence and decision gates contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in oil spill preparedness and response planning: evidence and decision gates?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in oil spill preparedness and response planning: evidence and decision gates?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Marine operations and station keeping

Learning objectives

- Explain marine operations and station keeping, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Marine operations and station keeping
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Oil Spill Preparedness and Response Planning

Teaching notes

Teaching notes

Core explanation. Floating facilities and vessels maintain position through mooring, dynamic positioning or combinations appropriate to their design. Marine operations depend on weather, equipment condition and personnel competence. Explain station-keeping failure consequences for risers, lines and transfer operations.

Decision logic. Operating windows are vessel- and task-specific. Review weather forecasts, redundancy, assurance and abort criteria before work. Do not use classroom numbers as vessel limits. Interface plans should define who can pause the operation and how changes are communicated.

Worked example. An operation remains within yesterday's forecast but the latest forecast deteriorates during the planned work window.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a go-or-defer briefing identifying information needed, authority and contingency.

Model answer guide. Use current metocean data, approved limits, equipment status and safe disengagement planning.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a go-or-defer briefing identifying information needed, authority and contingency.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of marine operations and station keeping?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about marine operations and station keeping?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about marine operations and station keeping be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating marine operations and station keeping?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in marine operations and station keeping?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning marine operations and station keeping?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for marine operations and station keeping. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on marine operations and station keeping contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about marine operations and station keeping?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in marine operations and station keeping?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Produced water hazardous substances and waste

Learning objectives

- Explain produced water hazardous substances and waste, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Produced water hazardous substances and waste
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Oil Spill Preparedness and Response Planning

Teaching notes

Teaching notes

Core explanation. Waste management identifies streams, hazards, storage, treatment, transport and final disposition. Separate prevention, reuse, recovery and disposal. Safety data sheets support hazardous-substance understanding but do not replace task assessment.

Decision logic. Track quantities and chain of custody. Mixing streams can increase hazards or eliminate recovery options. Actual handling and discharge limits come from applicable approvals and competent procedures, not classroom defaults. Include spill prevention and contractor verification.

Worked example. A fictional warehouse labels used oil as general waste, obscuring treatment and disposal requirements.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a waste-stream register with controls and evidence.

Model answer guide. Include classification, segregation, containment, authorised route, quantities and receipts.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a waste-stream register with controls and evidence.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of produced water hazardous substances and waste?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about produced water hazardous substances and waste?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about produced water hazardous substances and waste be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating produced water hazardous substances and waste?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in produced water hazardous substances and waste?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning produced water hazardous substances and waste?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for produced water hazardous substances and waste. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on produced water hazardous substances and waste contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about produced water hazardous substances and waste?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in produced water hazardous substances and waste?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Marine monitoring and evidence quality

Learning objectives

- Explain marine monitoring and evidence quality, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Marine monitoring and evidence quality
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Oil Spill Preparedness and Response Planning

Teaching notes

Teaching notes

Core explanation. Monitoring tests defined questions using repeatable sampling, measurement and analysis. Explain baseline, reference locations, quality control and detection limits. A changing measurement does not establish its cause automatically.

Decision logic. Specify indicators, frequency, methods, responsibilities and action thresholds through competent review. Maintain chain of custody and calibration records. Interpret trends alongside natural variability and other activities. Avoid using unsupported universal compliance limits.

Worked example. A sample result rises after a storm at both project and reference locations.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Interpret the result and propose a proportionate follow-up.

Model answer guide. Consider regional variability, method quality and exposure pathways before attributing causation.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Interpret the result and propose a proportionate follow-up.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of marine monitoring and evidence quality?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about marine monitoring and evidence quality?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about marine monitoring and evidence quality be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating marine monitoring and evidence quality?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in marine monitoring and evidence quality?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning marine monitoring and evidence quality?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for marine monitoring and evidence quality. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on marine monitoring and evidence quality contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about marine monitoring and evidence quality?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in marine monitoring and evidence quality?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Emergency preparedness and command

Learning objectives

- Explain emergency preparedness and command, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Emergency preparedness and command
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Oil Spill Preparedness and Response Planning

Teaching notes

Teaching notes

Core explanation. Emergency planning identifies credible scenarios, warning, command, communications, muster, evacuation, medical support and external interfaces. Responsibilities and fallback communications should be understood before an event. Awareness differs from emergency-team qualification.

Decision logic. Use tabletop exercises with timed injects, observer records and debrief actions. Test loss of communications or unavailable resources. Never simulate an actual distress call or activate real emergency equipment without authorised arrangements.

Worked example. A fictional offshore incident interrupts the primary communication link during a weather restriction.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Run a tabletop with incident controller, operations, logistics and communications roles.

Model answer guide. Prioritise people, establish command, verify information, use planned backup channels and document decisions.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Run a tabletop with incident controller, operations, logistics and communications roles.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of emergency preparedness and command?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about emergency preparedness and command?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about emergency preparedness and command be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating emergency preparedness and command?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in emergency preparedness and command?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning emergency preparedness and command?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for emergency preparedness and command. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on emergency preparedness and command contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about emergency preparedness and command?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in emergency preparedness and command?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Certificate in Oil Spill Preparedness and Response Planning: Knowledge Check

Learning objectives

- Explain certificate in oil spill preparedness and response planning: knowledge check, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Oil Spill Preparedness and Response Planning: Knowledge Check
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Oil Spill Preparedness and Response Planning

Teaching notes

Teaching notes

Core explanation. Certificate in Oil Spill Preparedness and Response Planning: Knowledge Check describes a practical part of Certificate in Oil Spill Preparedness and Response Planning. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in oil spill preparedness and response planning: knowledge check. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in oil spill preparedness and response planning: knowledge check while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in oil spill preparedness and response planning: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in oil spill preparedness and response planning: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in oil spill preparedness and response planning: knowledge check?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in oil spill preparedness and response planning: knowledge check?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in oil spill preparedness and response planning: knowledge check be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in oil spill preparedness and response planning: knowledge check?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in oil spill preparedness and response planning: knowledge check?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in oil spill preparedness and response planning: knowledge check?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in oil spill preparedness and response planning: knowledge check. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in oil spill preparedness and response planning: knowledge check contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in oil spill preparedness and response planning: knowledge check?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in oil spill preparedness and response planning: knowledge check?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Oil Spill Preparedness and Response Planning: Competence Review

Learning objectives

- Explain certificate in oil spill preparedness and response planning: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Oil Spill Preparedness and Response Planning: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Oil Spill Preparedness and Response Planning

Teaching notes

Teaching notes

Core explanation. Certificate in Oil Spill Preparedness and Response Planning: Competence Review describes a practical part of Certificate in Oil Spill Preparedness and Response Planning. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in oil spill preparedness and response planning: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in oil spill preparedness and response planning: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in oil spill preparedness and response planning: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in oil spill preparedness and response planning: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in oil spill preparedness and response planning: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in oil spill preparedness and response planning: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in oil spill preparedness and response planning: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in oil spill preparedness and response planning: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in oil spill preparedness and response planning: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in oil spill preparedness and response planning: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in oil spill preparedness and response planning: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in oil spill preparedness and response planning: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in oil spill preparedness and response planning: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in oil spill preparedness and response planning: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X18 | Certificate in Offshore Logistics and Materials Management

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Offshore Logistics and Materials Management, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Offshore Logistics and Materials Management.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Offshore supply base operations

Learning objectives

- Explain offshore supply base operations, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Offshore supply base operations
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Logistics and Materials Management

Teaching notes

Teaching notes

Core explanation. A supply base connects procurement, warehousing, vessel movements and offshore demand. Explain receiving, inspection, storage, picking, packing, manifesting and dispatch. Errors at these interfaces can delay work or create safety risks offshore.

Decision logic. Plan around vessel capacity, weather, priorities and return logistics. Maintain segregation, traceability and quality holds. A fast dispatch is unsuccessful if cargo is wrong or unusable. Use synthetic manifests and no actual customs declarations.

Worked example. A spare is dispatched urgently but lacks the required preservation and identification.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Trace the spare from purchase request to offshore receipt and identify control points.

Model answer guide. Include identity, condition, documentation, packing, manifest and receiving confirmation.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Trace the spare from purchase request to offshore receipt and identify control points.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of offshore supply base operations?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about offshore supply base operations?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about offshore supply base operations be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating offshore supply base operations?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in offshore supply base operations?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning offshore supply base operations?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for offshore supply base operations. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on offshore supply base operations contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about offshore supply base operations?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in offshore supply base operations?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Marine aviation and offshore logistics

Learning objectives

- Explain marine aviation and offshore logistics, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Marine aviation and offshore logistics
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Logistics and Materials Management

Teaching notes

Teaching notes

Core explanation. Marine and aviation logistics move people and materials through different capacity, weather and regulatory constraints. Explain planning, manifests, interfaces and contingency arrangements. Passenger and cargo operations require appropriate specialist authorisation.

Decision logic. Evaluate reliability and total service needs, not only transport price. Emergency arrangements, dangerous goods and communications affect planning. Do not infer STCW, aviation or offshore survival certification from this course. Real limits and booking approvals remain with authorised operators.

Worked example. A fictional weather delay blocks a planned crew change and critical spare delivery.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Develop a contingency plan that protects personnel welfare and operating limits.

Model answer guide. Include accommodation, revised schedules, priority cargo, communications and approved alternatives.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Develop a contingency plan that protects personnel welfare and operating limits.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of marine aviation and offshore logistics?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about marine aviation and offshore logistics?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about marine aviation and offshore logistics be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating marine aviation and offshore logistics?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in marine aviation and offshore logistics?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning marine aviation and offshore logistics?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for marine aviation and offshore logistics. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on marine aviation and offshore logistics contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about marine aviation and offshore logistics?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in marine aviation and offshore logistics?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Warehouse and inventory control

Learning objectives

- Explain warehouse and inventory control, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Warehouse and inventory control
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Logistics and Materials Management

Teaching notes

Teaching notes

Core explanation. Inventory control balances service availability, cost, condition and obsolescence. Explain stock codes, locations, cycle counts, reorder logic and preservation. Recorded quantity may differ from usable quantity when items are damaged or uncertified.

Decision logic. Use demand and lead-time assumptions transparently. Distinguish safety stock from unplanned surplus. Critical spares require failure-consequence review, not just demand averages. Investigate count differences rather than silently adjusting the system.

Worked example. Average demand is 2 items/week and replenishment takes 3 weeks; basic lead-time demand is 6 items before safety stock.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate the same quantity at 5-week lead time and discuss uncertainty.

Model answer guide. Ten items before safety stock; variability and criticality influence any additional holding.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Calculate the same quantity at 5-week lead time and discuss uncertainty.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of warehouse and inventory control?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about warehouse and inventory control?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about warehouse and inventory control be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating warehouse and inventory control?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in warehouse and inventory control?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning warehouse and inventory control?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for warehouse and inventory control. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on warehouse and inventory control contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about warehouse and inventory control?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in warehouse and inventory control?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Materials planning and traceability

Learning objectives

- Explain materials planning and traceability, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Materials planning and traceability
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Logistics and Materials Management

Teaching notes

Teaching notes

Core explanation. Materials planning translates maintenance and project demand into quantities, specifications, lead times and required dates. Traceability connects an item to its identity, certification, condition and location. Criticality affects stocking strategy.

Decision logic. Separate interchangeable consumables from controlled or serialised equipment. Forecast uncertainty and long lead times require explicit decisions. Expediting without specification control can deliver the wrong item faster. Maintain quarantine for discrepancies until authorised disposition.

Worked example. A connector arrives on time but its material certificate cannot be matched to the item.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a receiving discrepancy record and revised material plan.

Model answer guide. Hold the item from use pending verified identification and approved disposition; track schedule consequences.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a receiving discrepancy record and revised material plan.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of materials planning and traceability?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about materials planning and traceability?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about materials planning and traceability be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating materials planning and traceability?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in materials planning and traceability?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning materials planning and traceability?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for materials planning and traceability. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on materials planning and traceability contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about materials planning and traceability?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in materials planning and traceability?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Dangerous goods and marine cargo

Learning objectives

- Explain dangerous goods and marine cargo, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Dangerous goods and marine cargo
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Logistics and Materials Management

Teaching notes

Teaching notes

Core explanation. Dangerous-goods controls depend on substance, quantity, packaging, transport mode and role. Classification, segregation, marking and documentation require current authoritative rules. Awareness is distinct from authorisation to prepare or accept shipments.

Decision logic. Use mock documents and inert training items. Never assign actual classification or pack live dangerous goods from this handout. Damaged or uncertain cargo should be held and escalated. Air, sea and road requirements are not interchangeable.

Worked example. A fictional battery shipment is offered as general cargo without enough product or condition information.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Identify missing information and route the case for qualified review.

Model answer guide. Hold processing, verify battery details and applicable mode-specific requirements, and document the review.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Identify missing information and route the case for qualified review.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of dangerous goods and marine cargo?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about dangerous goods and marine cargo?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about dangerous goods and marine cargo be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating dangerous goods and marine cargo?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in dangerous goods and marine cargo?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning dangerous goods and marine cargo?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for dangerous goods and marine cargo. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on dangerous goods and marine cargo contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about dangerous goods and marine cargo?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in dangerous goods and marine cargo?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Customs import and export interfaces

Learning objectives

- Explain customs import and export interfaces, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Customs import and export interfaces
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Logistics and Materials Management

Teaching notes

Teaching notes

Core explanation. Cross-border movements require accurate identity, classification, value, origin and supporting documents under applicable rules. Temporary movements and returns can differ from permanent imports. This lesson teaches document control, not a tariff or legal ruling.

Decision logic. Verify current requirements with authorised customs specialists. Avoid importing foreign exemptions or rates into Namibia. Reconcile purchase, shipping and receiving data and retain audit records. A logistics plan should allow time for lawful clearance.

Worked example. A fictional temporary tool shipment is documented as a permanent sale, creating inconsistent records.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Audit a fictional document set and list clarification questions.

Model answer guide. Reconcile transaction purpose, item identity, value basis, origin and return plan with qualified review.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Audit a fictional document set and list clarification questions.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of customs import and export interfaces?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about customs import and export interfaces?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about customs import and export interfaces be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating customs import and export interfaces?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in customs import and export interfaces?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning customs import and export interfaces?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for customs import and export interfaces. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on customs import and export interfaces contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about customs import and export interfaces?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in customs import and export interfaces?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Procurement and supplier qualification

Learning objectives

- Explain procurement and supplier qualification, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Procurement and supplier qualification
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Logistics and Materials Management

Teaching notes

Teaching notes

Core explanation. Procurement translates a defined need into sourcing, evaluation, award and contract management. Separate mandatory eligibility, technical acceptance and commercial comparison. Clear specifications and evaluation criteria should exist before bids are opened.

Decision logic. Manage conflicts, confidentiality and fair treatment. Lowest price may not be lowest evaluated cost if quality, delivery and lifecycle support differ. Document decisions and follow delegated authority; this classroom exercise awards no real contracts.

Worked example. A low bid excludes offshore mobilisation while another includes it.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Normalise three fictional bids and prepare an evaluation recommendation.

Model answer guide. Compare like-for-like scope, clarify exclusions and include risk with an auditable decision basis.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Normalise three fictional bids and prepare an evaluation recommendation.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of procurement and supplier qualification?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about procurement and supplier qualification?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about procurement and supplier qualification be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating procurement and supplier qualification?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in procurement and supplier qualification?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning procurement and supplier qualification?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for procurement and supplier qualification. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on procurement and supplier qualification contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about procurement and supplier qualification?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in procurement and supplier qualification?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Contract and vendor performance

Learning objectives

- Explain contract and vendor performance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Contract and vendor performance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Logistics and Materials Management

Teaching notes

Teaching notes

Core explanation. Vendor management checks delivery against agreed scope, quality, schedule, HSE and commercial terms. Define measurable acceptance criteria and evidence. Relationship quality helps but does not replace objective verification.

Decision logic. Use proportionate reviews, corrective actions and escalation. Indicators can conflict: on-time delivery of defective items is poor performance. Changes require controlled agreement. Preserve records needed for payment, warranty and learning.

Worked example. A supplier meets delivery dates but repeatedly submits incomplete quality dossiers.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Develop a balanced performance scorecard and corrective-action request.

Model answer guide. Include first-time quality, documentation, delivery and action effectiveness with accountable dates.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Develop a balanced performance scorecard and corrective-action request.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of contract and vendor performance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about contract and vendor performance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about contract and vendor performance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating contract and vendor performance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in contract and vendor performance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning contract and vendor performance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for contract and vendor performance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on contract and vendor performance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about contract and vendor performance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in contract and vendor performance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Industrial data architecture and governance

Learning objectives

- Explain industrial data architecture and governance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Industrial data architecture and governance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Logistics and Materials Management

Teaching notes

Teaching notes

Core explanation. Industrial data flows from sensors through historians and integration platforms to analysis and decisions. Define asset identity, units, timestamps, quality status and ownership. A large dataset is not necessarily fit for purpose.

Decision logic. Check time synchronisation, missing values, calibration changes and access permissions before analysis. Keep provenance and revision history. Avoid transferring confidential operational data into exercises; all datasets in this package are fictional.

Worked example. A trend combines pressure in bar and kilopascals under one label, producing a false step change.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a data dictionary and quality checks for a fictional dataset.

Model answer guide. Define units, time basis, validity flags, owner and transformations; resolve inconsistent units before interpretation.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a data dictionary and quality checks for a fictional dataset.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of industrial data architecture and governance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about industrial data architecture and governance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about industrial data architecture and governance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating industrial data architecture and governance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in industrial data architecture and governance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning industrial data architecture and governance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for industrial data architecture and governance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on industrial data architecture and governance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about industrial data architecture and governance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in industrial data architecture and governance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Offshore Logistics and Materials Management: Competence Review

Learning objectives

- Explain certificate in offshore logistics and materials management: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Offshore Logistics and Materials Management: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Offshore Logistics and Materials Management

Teaching notes

Teaching notes

Core explanation. Certificate in Offshore Logistics and Materials Management: Competence Review describes a practical part of Certificate in Offshore Logistics and Materials Management. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in offshore logistics and materials management: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in offshore logistics and materials management: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in offshore logistics and materials management: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in offshore logistics and materials management: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in offshore logistics and materials management: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in offshore logistics and materials management: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in offshore logistics and materials management: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in offshore logistics and materials management: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in offshore logistics and materials management: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in offshore logistics and materials management: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in offshore logistics and materials management: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in offshore logistics and materials management: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in offshore logistics and materials management: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in offshore logistics and materials management: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X19 | Certificate in Energy Cybersecurity and Digital Risk

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Energy Cybersecurity and Digital Risk, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Energy Cybersecurity and Digital Risk.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: OT and ICS cybersecurity awareness

Learning objectives

- Explain ot and ics cybersecurity awareness, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of OT and ICS cybersecurity awareness
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Cybersecurity and Digital Risk

Teaching notes

Teaching notes

Core explanation. Operational technology controls physical processes, so availability, safety and predictable operation are central. Explain assets, zones, connections, remote access and dependencies conceptually. Security controls must be coordinated with operational and safety requirements.

Decision logic. Use a tabletop risk assessment on fictional architecture. Inventory, controlled access, segmentation, backup and recovery are discussion topics, not permission for live changes or scanning. Approved change and incident procedures govern actual systems.

Worked example. An unrecorded remote-support connection bypasses the fictional architecture's reviewed access path.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Identify risk and propose review questions without touching any real network.

Model answer guide. Request asset ownership, approved access route, monitoring, recovery and safety coordination.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Identify risk and propose review questions without touching any real network.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of ot and ics cybersecurity awareness?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about ot and ics cybersecurity awareness?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about ot and ics cybersecurity awareness be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating ot and ics cybersecurity awareness?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in ot and ics cybersecurity awareness?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning ot and ics cybersecurity awareness?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for ot and ics cybersecurity awareness. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on ot and ics cybersecurity awareness contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about ot and ics cybersecurity awareness?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in ot and ics cybersecurity awareness?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Information security management systems

Learning objectives

- Explain information security management systems, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Information security management systems
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Cybersecurity and Digital Risk

Teaching notes

Teaching notes

Core explanation. An ISMS establishes governance for protecting information through risk management, responsibilities, controls and continual improvement. Define scope, interested parties and information assets before selecting controls. This is original awareness content informed by the supplied implementation proposal.

Decision logic. Connect risk treatment, documented decisions, monitoring, audit and corrective action. Obtain licensed standards for formal implementation and verify external certification requirements with the relevant body. This course does not award PECB or ISO certification and reproduces no official examination.

Worked example. A fictional academy protects student records through defined access, retention and incident responsibilities.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Draft an ISMS scope, three risks and a treatment review plan.

Model answer guide. Require risk owners, justified treatments, evidence, review and escalation; distinguish organisational certification from personal credentials.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Draft an ISMS scope, three risks and a treatment review plan.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of information security management systems?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about information security management systems?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about information security management systems be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating information security management systems?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in information security management systems?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning information security management systems?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for information security management systems. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on information security management systems contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about information security management systems?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in information security management systems?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Certificate in Energy Cybersecurity and Digital Risk: Systems and Interfaces

Learning objectives

- Explain certificate in energy cybersecurity and digital risk: systems and interfaces, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Energy Cybersecurity and Digital Risk: Systems and Interfaces
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Cybersecurity and Digital Risk

Teaching notes

Teaching notes

Core explanation. Certificate in Energy Cybersecurity and Digital Risk: Systems and Interfaces describes a practical part of Certificate in Energy Cybersecurity and Digital Risk. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in energy cybersecurity and digital risk: systems and interfaces. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in energy cybersecurity and digital risk: systems and interfaces while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in energy cybersecurity and digital risk: systems and interfaces: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in energy cybersecurity and digital risk: systems and interfaces: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in energy cybersecurity and digital risk: systems and interfaces?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in energy cybersecurity and digital risk: systems and interfaces?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in energy cybersecurity and digital risk: systems and interfaces be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in energy cybersecurity and digital risk: systems and interfaces?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in energy cybersecurity and digital risk: systems and interfaces?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in energy cybersecurity and digital risk: systems and interfaces?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in energy cybersecurity and digital risk: systems and interfaces. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in energy cybersecurity and digital risk: systems and interfaces contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in energy cybersecurity and digital risk: systems and interfaces?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in energy cybersecurity and digital risk: systems and interfaces?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Umbilicals and subsea control systems

Learning objectives

- Explain umbilicals and subsea control systems, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Umbilicals and subsea control systems
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Cybersecurity and Digital Risk

Teaching notes

Teaching notes

Core explanation. Umbilicals transmit combinations of power, communications, hydraulic service and chemicals. Subsea controls command and monitor equipment. Use a signal-and-energy diagram to separate commands, feedback and physical actuation.

Decision logic. Control philosophy must address loss of power, communications and hydraulic supply, plus the intended safe response. Check compatibility and redundancy across surface and subsea equipment. A command acknowledgement does not necessarily prove final valve position.

Worked example. A control command is received, but independent position feedback disagrees. Investigate rather than assume successful actuation.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Trace one command path and identify three failure points and their indication.

Model answer guide. Include surface control, communication, power or hydraulic supply and feedback; distinguish received command from achieved state.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Trace one command path and identify three failure points and their indication.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of umbilicals and subsea control systems?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about umbilicals and subsea control systems?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about umbilicals and subsea control systems be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating umbilicals and subsea control systems?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in umbilicals and subsea control systems?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning umbilicals and subsea control systems?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for umbilicals and subsea control systems. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on umbilicals and subsea control systems contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about umbilicals and subsea control systems?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in umbilicals and subsea control systems?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Incident investigation and learning

Learning objectives

- Explain incident investigation and learning, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Incident investigation and learning
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Cybersecurity and Digital Risk

Teaching notes

Teaching notes

Core explanation. An investigation establishes what happened, why controls failed and how recurrence can be prevented. Preserve evidence, protect people and separate verified facts from assumptions. Near misses can reveal major weaknesses without actual harm.

Decision logic. Use a timeline and causal analysis to explore technical, human and organisational contributors. Avoid premature blame and unsupported conclusions. Actions should address causes, have accountable owners and be checked for effectiveness. Reporting follows applicable site and legal requirements.

Worked example. A dropped tool caused no injury, but exclusion-zone and securing controls were ineffective.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Analyse a fictional near miss and propose three causal actions.

Model answer guide. Include physical prevention, work-system improvements and verification, rather than retraining alone.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Analyse a fictional near miss and propose three causal actions.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of incident investigation and learning?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about incident investigation and learning?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about incident investigation and learning be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating incident investigation and learning?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in incident investigation and learning?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning incident investigation and learning?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for incident investigation and learning. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on incident investigation and learning contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about incident investigation and learning?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in incident investigation and learning?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: SCADA DCS and integrated control systems

Learning objectives

- Explain scada dcs and integrated control systems, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of SCADA DCS and integrated control systems
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Cybersecurity and Digital Risk

Teaching notes

Teaching notes

Core explanation. Control systems acquire signals, execute logic and support operator actions. SCADA, DCS and integrated control architectures differ by context; safety functions require appropriate separation and assurance. Explain sensor, controller, final element and human interface.

Decision logic. Alarm and control design must match process needs and human capability. More alarms do not necessarily improve safety. Changes to logic require controlled review, testing and approval. This course uses simulation only and provides no live-system modification instructions.

Worked example. An alarm floods the operator screen during a simulated upset, obscuring the initiating condition.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Map a control loop and evaluate an alarm list for prioritisation questions.

Model answer guide. Identify measurement, logic, final element and feedback, with rationalised alarms and change control.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Map a control loop and evaluate an alarm list for prioritisation questions.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of scada dcs and integrated control systems?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about scada dcs and integrated control systems?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about scada dcs and integrated control systems be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating scada dcs and integrated control systems?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in scada dcs and integrated control systems?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning scada dcs and integrated control systems?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for scada dcs and integrated control systems. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on scada dcs and integrated control systems contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about scada dcs and integrated control systems?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in scada dcs and integrated control systems?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Industrial data architecture and governance

Learning objectives

- Explain industrial data architecture and governance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Industrial data architecture and governance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Cybersecurity and Digital Risk

Teaching notes

Teaching notes

Core explanation. Industrial data flows from sensors through historians and integration platforms to analysis and decisions. Define asset identity, units, timestamps, quality status and ownership. A large dataset is not necessarily fit for purpose.

Decision logic. Check time synchronisation, missing values, calibration changes and access permissions before analysis. Keep provenance and revision history. Avoid transferring confidential operational data into exercises; all datasets in this package are fictional.

Worked example. A trend combines pressure in bar and kilopascals under one label, producing a false step change.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a data dictionary and quality checks for a fictional dataset.

Model answer guide. Define units, time basis, validity flags, owner and transformations; resolve inconsistent units before interpretation.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a data dictionary and quality checks for a fictional dataset.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of industrial data architecture and governance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about industrial data architecture and governance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about industrial data architecture and governance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating industrial data architecture and governance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in industrial data architecture and governance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning industrial data architecture and governance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for industrial data architecture and governance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on industrial data architecture and governance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about industrial data architecture and governance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in industrial data architecture and governance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Petroleum policy and institutional governance

Learning objectives

- Explain petroleum policy and institutional governance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Petroleum policy and institutional governance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Cybersecurity and Digital Risk

Teaching notes

Teaching notes

Core explanation. Policy sets objectives, institutions assign authority, and governance creates accountability for decisions and resources. Explain government, regulator and state enterprise roles conceptually without asserting an unverified current Namibian structure.

Decision logic. Separate commercial participation from regulatory judgement and manage conflicts transparently. Define decision rights, disclosure, assurance and challenge. A strong governance design includes implementation capacity and an audit trail, not just an organisation chart.

Worked example. A fictional institution both promotes investment and evaluates its own project compliance, creating a conflict to manage.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Draft a responsibility matrix and conflict-management controls.

Model answer guide. Identify segregated decisions, independent review, declarations and public accountability where applicable.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Draft a responsibility matrix and conflict-management controls.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of petroleum policy and institutional governance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about petroleum policy and institutional governance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about petroleum policy and institutional governance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating petroleum policy and institutional governance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in petroleum policy and institutional governance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning petroleum policy and institutional governance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for petroleum policy and institutional governance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on petroleum policy and institutional governance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about petroleum policy and institutional governance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in petroleum policy and institutional governance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Certificate in Energy Cybersecurity and Digital Risk: Knowledge Check

Learning objectives

- Explain certificate in energy cybersecurity and digital risk: knowledge check, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Energy Cybersecurity and Digital Risk: Knowledge Check
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Cybersecurity and Digital Risk

Teaching notes

Teaching notes

Core explanation. Certificate in Energy Cybersecurity and Digital Risk: Knowledge Check describes a practical part of Certificate in Energy Cybersecurity and Digital Risk. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in energy cybersecurity and digital risk: knowledge check. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in energy cybersecurity and digital risk: knowledge check while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in energy cybersecurity and digital risk: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in energy cybersecurity and digital risk: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in energy cybersecurity and digital risk: knowledge check?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in energy cybersecurity and digital risk: knowledge check?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in energy cybersecurity and digital risk: knowledge check be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in energy cybersecurity and digital risk: knowledge check?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in energy cybersecurity and digital risk: knowledge check?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in energy cybersecurity and digital risk: knowledge check?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in energy cybersecurity and digital risk: knowledge check. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in energy cybersecurity and digital risk: knowledge check contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in energy cybersecurity and digital risk: knowledge check?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in energy cybersecurity and digital risk: knowledge check?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Energy Cybersecurity and Digital Risk: Competence Review

Learning objectives

- Explain certificate in energy cybersecurity and digital risk: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Energy Cybersecurity and Digital Risk: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Cybersecurity and Digital Risk

Teaching notes

Teaching notes

Core explanation. Certificate in Energy Cybersecurity and Digital Risk: Competence Review describes a practical part of Certificate in Energy Cybersecurity and Digital Risk. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in energy cybersecurity and digital risk: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in energy cybersecurity and digital risk: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in energy cybersecurity and digital risk: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in energy cybersecurity and digital risk: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in energy cybersecurity and digital risk: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in energy cybersecurity and digital risk: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in energy cybersecurity and digital risk: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in energy cybersecurity and digital risk: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in energy cybersecurity and digital risk: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in energy cybersecurity and digital risk: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in energy cybersecurity and digital risk: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in energy cybersecurity and digital risk: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in energy cybersecurity and digital risk: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in energy cybersecurity and digital risk: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X20 | Certificate in Petroleum Reserves and Resource Evaluation

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Petroleum Reserves and Resource Evaluation, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Petroleum Reserves and Resource Evaluation.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Volumetric estimation

Learning objectives

- Explain volumetric estimation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Volumetric estimation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Reserves and Resource Evaluation

Teaching notes

Teaching notes

Core explanation. Oil initially in place can be estimated from bulk rock volume, net-to-gross, porosity and hydrocarbon saturation, divided by oil formation volume factor. Keep all units consistent. In-place oil is different from recoverable resources, which require recovery and development assumptions.

Decision logic. Avoid combining unrelated optimistic parameters into an unlabelled base case. Preserve dependence between area, thickness and reservoir quality. Present ranges and indicate which measurements drive uncertainty. Recovery factor is a scenario assumption until supported by reservoir evaluation.

Worked example. Using SI volumes: 1 million cubic metres bulk rock, NTG 0.5, porosity 0.2, oil saturation 0.7 and Bo 1.2 gives about 58,333 stock-tank cubic metres in place.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Recalculate after halving net-to-gross and interpret the result.

Model answer guide. The estimate halves to about 29,167 cubic metres; this remains in-place oil, not booked reserves.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Recalculate after halving net-to-gross and interpret the result.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of volumetric estimation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about volumetric estimation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about volumetric estimation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating volumetric estimation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in volumetric estimation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning volumetric estimation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for volumetric estimation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on volumetric estimation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about volumetric estimation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in volumetric estimation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Certificate in Petroleum Reserves and Resource Evaluation: Risk Controls

Learning objectives

- Explain certificate in petroleum reserves and resource evaluation: risk controls, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Petroleum Reserves and Resource Evaluation: Risk Controls
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Reserves and Resource Evaluation

Teaching notes

Teaching notes

Core explanation. Certificate in Petroleum Reserves and Resource Evaluation: Risk Controls describes a practical part of Certificate in Petroleum Reserves and Resource Evaluation. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in petroleum reserves and resource evaluation: risk controls. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in petroleum reserves and resource evaluation: risk controls while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in petroleum reserves and resource evaluation: risk controls: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in petroleum reserves and resource evaluation: risk controls: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in petroleum reserves and resource evaluation: risk controls?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in petroleum reserves and resource evaluation: risk controls?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in petroleum reserves and resource evaluation: risk controls be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in petroleum reserves and resource evaluation: risk controls?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in petroleum reserves and resource evaluation: risk controls?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in petroleum reserves and resource evaluation: risk controls?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in petroleum reserves and resource evaluation: risk controls. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in petroleum reserves and resource evaluation: risk controls contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in petroleum reserves and resource evaluation: risk controls?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in petroleum reserves and resource evaluation: risk controls?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Certificate in Petroleum Reserves and Resource Evaluation: Systems and Interfaces

Learning objectives

- Explain certificate in petroleum reserves and resource evaluation: systems and interfaces, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Petroleum Reserves and Resource Evaluation: Systems and Interfaces
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Reserves and Resource Evaluation

Teaching notes

Teaching notes

Core explanation. Certificate in Petroleum Reserves and Resource Evaluation: Systems and Interfaces describes a practical part of Certificate in Petroleum Reserves and Resource Evaluation. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in petroleum reserves and resource evaluation: systems and interfaces. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in petroleum reserves and resource evaluation: systems and interfaces while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in petroleum reserves and resource evaluation: systems and interfaces: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in petroleum reserves and resource evaluation: systems and interfaces: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in petroleum reserves and resource evaluation: systems and interfaces?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in petroleum reserves and resource evaluation: systems and interfaces?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in petroleum reserves and resource evaluation: systems and interfaces be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in petroleum reserves and resource evaluation: systems and interfaces?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in petroleum reserves and resource evaluation: systems and interfaces?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in petroleum reserves and resource evaluation: systems and interfaces?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in petroleum reserves and resource evaluation: systems and interfaces. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in petroleum reserves and resource evaluation: systems and interfaces contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in petroleum reserves and resource evaluation: systems and interfaces?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in petroleum reserves and resource evaluation: systems and interfaces?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Production forecasting

Learning objectives

- Explain production forecasting, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Production forecasting
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Reserves and Resource Evaluation

Teaching notes

Teaching notes

Core explanation. Forecasts combine reservoir behaviour, well availability, ramp-up, capacity constraints and downtime. Distinguish potential reservoir production from saleable output. State units, time basis and whether rates are instantaneous, daily averages or annual totals.

Decision logic. Build low, base and high cases with internally consistent constraints. Bottlenecks can shift as water production rises. Compare forecast to observed history when available and track revisions with reasons. Do not assign actual Namibian first-oil dates from classroom scenarios.

Worked example. A system with 100,000 barrels/day potential and 90% availability yields 90,000 barrels/day average before other constraints.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a one-year forecast with availability falling to 80% for three months.

Model answer guide. Calculate period-weighted output and explain facility versus reservoir constraints separately.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a one-year forecast with availability falling to 80% for three months.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of production forecasting?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about production forecasting?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about production forecasting be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating production forecasting?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in production forecasting?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning production forecasting?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for production forecasting. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on production forecasting contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about production forecasting?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in production forecasting?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Well testing and pressure interpretation

Learning objectives

- Explain well testing and pressure interpretation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Well testing and pressure interpretation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Reserves and Resource Evaluation

Teaching notes

Teaching notes

Core explanation. A well test records flow and pressure response to infer reservoir and well behaviour. Explain drawdown, buildup, skin and boundary effects conceptually. Measurement resolution, rate history and test duration constrain interpretation.

Decision logic. Different models can fit limited data. Use derivative behaviour and independent geology to test models rather than declaring a unique answer. Short tests may not observe distant boundaries. Operational testing requires an approved programme and safety controls.

Worked example. A short buildup appears stable but has not investigated the reservoir boundary; connectivity remains uncertain.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review a fictional test summary and list claims supported and unsupported by it.

Model answer guide. Separate local mobility evidence from field-wide connectivity and long-term deliverability claims.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review a fictional test summary and list claims supported and unsupported by it.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of well testing and pressure interpretation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about well testing and pressure interpretation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about well testing and pressure interpretation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating well testing and pressure interpretation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in well testing and pressure interpretation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning well testing and pressure interpretation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for well testing and pressure interpretation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on well testing and pressure interpretation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about well testing and pressure interpretation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in well testing and pressure interpretation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Petroleum economics overview

Learning objectives

- Explain petroleum economics overview, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Petroleum economics overview
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Reserves and Resource Evaluation

Teaching notes

Teaching notes

Core explanation. Economics translates technical scenarios into cash-flow consequences. Define decision alternatives and the perspective first, then estimate volume, timing, realised prices, costs, fiscal payments and closure. Compare value, affordability and exposure together.

Decision logic. Use transparent assumptions with units and source dates. A model's arithmetic can be correct while its development assumptions are implausible. Separate geological uncertainty, engineering uncertainty and market risk, and show which could reverse the decision.

Worked example. Two fictional projects have equal undiscounted cash surplus but one receives cash five years later.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Explain which may have greater present value and what additional information is required.

Model answer guide. Earlier comparable cash usually has greater present value at positive discount rates; require timing and risk details.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Explain which may have greater present value and what additional information is required.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of petroleum economics overview?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about petroleum economics overview?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about petroleum economics overview be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating petroleum economics overview?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in petroleum economics overview?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning petroleum economics overview?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for petroleum economics overview. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on petroleum economics overview contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about petroleum economics overview?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in petroleum economics overview?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Sensitivity and scenario analysis

Learning objectives

- Explain sensitivity and scenario analysis, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Sensitivity and scenario analysis
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Reserves and Resource Evaluation

Teaching notes

Teaching notes

Core explanation. Sensitivity changes one input to understand model response; scenarios change coherent sets of assumptions. A tornado chart ranks tested effects, not the probability of events. Distinguish uncertainty ranges from forecasts and assigned probabilities.

Decision logic. Check dependencies: schedule delay may increase cost and defer revenue together. A correlated downside should not be represented as independent optimistic inputs. Identify decision-changing variables and the evidence that could narrow them.

Worked example. Price down 20% and CAPEX up 20% are separate sensitivities; combined delay, inflation and low price is a downside scenario.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a sensitivity table and one coherent downside scenario.

Model answer guide. Preserve the base case, document changed inputs, and explain causal links in the combined case.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a sensitivity table and one coherent downside scenario.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of sensitivity and scenario analysis?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about sensitivity and scenario analysis?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about sensitivity and scenario analysis be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating sensitivity and scenario analysis?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in sensitivity and scenario analysis?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning sensitivity and scenario analysis?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for sensitivity and scenario analysis. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on sensitivity and scenario analysis contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about sensitivity and scenario analysis?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in sensitivity and scenario analysis?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Petroleum policy and institutional governance

Learning objectives

- Explain petroleum policy and institutional governance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Petroleum policy and institutional governance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Reserves and Resource Evaluation

Teaching notes

Teaching notes

Core explanation. Policy sets objectives, institutions assign authority, and governance creates accountability for decisions and resources. Explain government, regulator and state enterprise roles conceptually without asserting an unverified current Namibian structure.

Decision logic. Separate commercial participation from regulatory judgement and manage conflicts transparently. Define decision rights, disclosure, assurance and challenge. A strong governance design includes implementation capacity and an audit trail, not just an organisation chart.

Worked example. A fictional institution both promotes investment and evaluates its own project compliance, creating a conflict to manage.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Draft a responsibility matrix and conflict-management controls.

Model answer guide. Identify segregated decisions, independent review, declarations and public accountability where applicable.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Draft a responsibility matrix and conflict-management controls.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of petroleum policy and institutional governance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about petroleum policy and institutional governance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about petroleum policy and institutional governance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating petroleum policy and institutional governance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in petroleum policy and institutional governance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning petroleum policy and institutional governance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for petroleum policy and institutional governance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on petroleum policy and institutional governance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about petroleum policy and institutional governance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in petroleum policy and institutional governance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Certificate in Petroleum Reserves and Resource Evaluation: Knowledge Check

Learning objectives

- Explain certificate in petroleum reserves and resource evaluation: knowledge check, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Petroleum Reserves and Resource Evaluation: Knowledge Check
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Reserves and Resource Evaluation

Teaching notes

Teaching notes

Core explanation. Certificate in Petroleum Reserves and Resource Evaluation: Knowledge Check describes a practical part of Certificate in Petroleum Reserves and Resource Evaluation. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in petroleum reserves and resource evaluation: knowledge check. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in petroleum reserves and resource evaluation: knowledge check while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in petroleum reserves and resource evaluation: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in petroleum reserves and resource evaluation: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in petroleum reserves and resource evaluation: knowledge check?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in petroleum reserves and resource evaluation: knowledge check?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in petroleum reserves and resource evaluation: knowledge check be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in petroleum reserves and resource evaluation: knowledge check?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in petroleum reserves and resource evaluation: knowledge check?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in petroleum reserves and resource evaluation: knowledge check?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in petroleum reserves and resource evaluation: knowledge check. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in petroleum reserves and resource evaluation: knowledge check contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in petroleum reserves and resource evaluation: knowledge check?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in petroleum reserves and resource evaluation: knowledge check?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Petroleum Reserves and Resource Evaluation: Competence Review

Learning objectives

- Explain certificate in petroleum reserves and resource evaluation: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Petroleum Reserves and Resource Evaluation: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Petroleum Reserves and Resource Evaluation

Teaching notes

Teaching notes

Core explanation. Certificate in Petroleum Reserves and Resource Evaluation: Competence Review describes a practical part of Certificate in Petroleum Reserves and Resource Evaluation. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in petroleum reserves and resource evaluation: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in petroleum reserves and resource evaluation: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in petroleum reserves and resource evaluation: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in petroleum reserves and resource evaluation: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in petroleum reserves and resource evaluation: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in petroleum reserves and resource evaluation: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in petroleum reserves and resource evaluation: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in petroleum reserves and resource evaluation: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in petroleum reserves and resource evaluation: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in petroleum reserves and resource evaluation: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in petroleum reserves and resource evaluation: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in petroleum reserves and resource evaluation: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in petroleum reserves and resource evaluation: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in petroleum reserves and resource evaluation: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X21 | Certificate in Energy Law and Regulatory Compliance

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Energy Law and Regulatory Compliance, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Energy Law and Regulatory Compliance.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Petroleum legislative architecture

Learning objectives

- Explain petroleum legislative architecture, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Petroleum legislative architecture
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Law and Regulatory Compliance

Teaching notes

Teaching notes

Core explanation. Distinguish legislation, regulations, licence conditions, contracts and internal procedures. Public-law obligations and private agreements serve different functions. A commercial agreement cannot be assumed to waive a statutory requirement. Identify which authority and jurisdiction govern each issue.

Decision logic. Teach a verification method rather than unverified current legal rules: locate the official instrument, record amendment and commencement status, confirm applicability, and obtain qualified review. Classroom comparisons of concessions and PSAs are not statements of Namibia's adopted system.

Worked example. A contract refers to an old environmental instrument; the legal register must check current requirements before relying on it.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a legal-register template for exploration, development and operations.

Model answer guide. Include instrument, version, duty, applicability, owner, evidence and next review date.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a legal-register template for exploration, development and operations.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of petroleum legislative architecture?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about petroleum legislative architecture?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about petroleum legislative architecture be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating petroleum legislative architecture?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in petroleum legislative architecture?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning petroleum legislative architecture?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for petroleum legislative architecture. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on petroleum legislative architecture contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about petroleum legislative architecture?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in petroleum legislative architecture?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Licensing and acreage management

Learning objectives

- Explain licensing and acreage management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Licensing and acreage management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Law and Regulatory Compliance

Teaching notes

Teaching notes

Core explanation. Licences define rights and obligations within specified areas and periods. Work commitments, reporting, transfers and relinquishment may be governed by the applicable framework. Explain the difference between holding acreage and receiving all approvals to develop or operate.

Decision logic. Assess technical capability, beneficial ownership, financial capacity and compliance evidence within lawful processes. Keep commercial attractiveness separate from eligibility. Do not invent bid-round dates, licence terms or regulator powers for Namibia.

Worked example. A fictional explorer holds an exploration right but has not secured approval for a later development activity.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Build an approval dependency map and identify verification questions.

Model answer guide. Separate rights, environmental approvals, development decisions and operational consents; verify each duty.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Build an approval dependency map and identify verification questions.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of licensing and acreage management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about licensing and acreage management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about licensing and acreage management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating licensing and acreage management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in licensing and acreage management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning licensing and acreage management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for licensing and acreage management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on licensing and acreage management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about licensing and acreage management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in licensing and acreage management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Certificate in Energy Law and Regulatory Compliance: Systems and Interfaces

Learning objectives

- Explain certificate in energy law and regulatory compliance: systems and interfaces, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Energy Law and Regulatory Compliance: Systems and Interfaces
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Law and Regulatory Compliance

Teaching notes

Teaching notes

Core explanation. Certificate in Energy Law and Regulatory Compliance: Systems and Interfaces describes a practical part of Certificate in Energy Law and Regulatory Compliance. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in energy law and regulatory compliance: systems and interfaces. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in energy law and regulatory compliance: systems and interfaces while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in energy law and regulatory compliance: systems and interfaces: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in energy law and regulatory compliance: systems and interfaces: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in energy law and regulatory compliance: systems and interfaces?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in energy law and regulatory compliance: systems and interfaces?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in energy law and regulatory compliance: systems and interfaces be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in energy law and regulatory compliance: systems and interfaces?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in energy law and regulatory compliance: systems and interfaces?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in energy law and regulatory compliance: systems and interfaces?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in energy law and regulatory compliance: systems and interfaces. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in energy law and regulatory compliance: systems and interfaces contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in energy law and regulatory compliance: systems and interfaces?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in energy law and regulatory compliance: systems and interfaces?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Environmental legal register and compliance

Learning objectives

- Explain environmental legal register and compliance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Environmental legal register and compliance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Law and Regulatory Compliance

Teaching notes

Teaching notes

Core explanation. Environmental duties can arise across assessment, permits, operating conditions, waste, monitoring and closure. Identify the activity, receptor and obligation before choosing evidence. A permit application is different from an issued approval.

Decision logic. Build a current obligations register verified against official instruments and site-specific conditions. Do not import foreign discharge limits as local law. Compliance monitoring should record accountable owners, exceedances, corrective action and reporting requirements.

Worked example. A project has an assessment report but no verified record of the required approval decision.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review a fictional compliance register and classify missing evidence.

Model answer guide. Flag unverified approvals and conditions; do not mark compliant merely because a study exists.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review a fictional compliance register and classify missing evidence.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of environmental legal register and compliance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about environmental legal register and compliance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about environmental legal register and compliance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating environmental legal register and compliance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in environmental legal register and compliance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning environmental legal register and compliance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for environmental legal register and compliance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on environmental legal register and compliance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about environmental legal register and compliance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in environmental legal register and compliance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Maritime and offshore legal interfaces

Learning objectives

- Explain maritime and offshore legal interfaces, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Maritime and offshore legal interfaces
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Law and Regulatory Compliance

Teaching notes

Teaching notes

Core explanation. Offshore activities can involve coastal-state, flag-state, port-state, class and contractual requirements. These are overlapping functions, not synonyms. Explain vessel status, marine pollution prevention and personnel competence as separate assurance areas.

Decision logic. Identify jurisdiction and task before applying a rule. A vessel certificate does not by itself approve every cargo transfer or offshore activity. Obtain current maritime and legal advice for actual operations; classroom guidance is not a statutory checklist.

Worked example. A vessel is classed but its planned task requires additional operational and port checks.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Map responsible parties and verification documents for a fictional supply voyage.

Model answer guide. Distinguish class, flag, port, coastal-state and charter requirements without asserting universal document lists.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Map responsible parties and verification documents for a fictional supply voyage.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of maritime and offshore legal interfaces?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about maritime and offshore legal interfaces?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about maritime and offshore legal interfaces be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating maritime and offshore legal interfaces?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in maritime and offshore legal interfaces?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning maritime and offshore legal interfaces?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for maritime and offshore legal interfaces. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on maritime and offshore legal interfaces contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about maritime and offshore legal interfaces?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in maritime and offshore legal interfaces?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Contract strategy and risk allocation

Learning objectives

- Explain contract strategy and risk allocation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Contract strategy and risk allocation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Law and Regulatory Compliance

Teaching notes

Teaching notes

Core explanation. Contracts define scope, deliverables, payment, acceptance, change and remedies. Lump sum, reimbursable and target-cost arrangements allocate uncertainty differently. Begin with scope maturity and market capability rather than choosing a familiar contract label.

Decision logic. Risk should be allocated to parties able to manage it, with realistic pricing and assurance. Unclear interfaces create disputes despite detailed clauses. Actual indemnity, liability, insurance and governing-law terms require qualified legal and commercial review.

Worked example. A supplier prices an undefined offshore interface as an exclusion; the owner's total risk remains unresolved.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Draft a scope and interface schedule for a fictional package.

Model answer guide. Include deliverables, acceptance evidence, owner interfaces, change control and exclusions.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Draft a scope and interface schedule for a fictional package.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of contract strategy and risk allocation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about contract strategy and risk allocation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about contract strategy and risk allocation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating contract strategy and risk allocation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in contract strategy and risk allocation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning contract strategy and risk allocation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for contract strategy and risk allocation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on contract strategy and risk allocation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about contract strategy and risk allocation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in contract strategy and risk allocation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Dispute prevention and resolution

Learning objectives

- Explain dispute prevention and resolution, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Dispute prevention and resolution
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Law and Regulatory Compliance

Teaching notes

Teaching notes

Core explanation. Disputes often begin with ambiguity, undocumented change or inconsistent expectations. Teach contemporaneous records, issue escalation and contractual notice awareness. Separate technical disagreement from entitlement and relationship management.

Decision logic. Map negotiation, mediation, expert determination, arbitration or litigation only as options governed by actual agreements and law. Protect privileged or sensitive information and obtain legal advice where needed. Never invent notice periods or enforceability claims.

Worked example. A contractor requests extra payment for changed access conditions but the instructions and impact records are incomplete.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Assemble an issue chronology and identify evidence gaps.

Model answer guide. Separate established facts, disputed facts, contract questions and commercial options.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Assemble an issue chronology and identify evidence gaps.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of dispute prevention and resolution?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about dispute prevention and resolution?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about dispute prevention and resolution be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating dispute prevention and resolution?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in dispute prevention and resolution?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning dispute prevention and resolution?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for dispute prevention and resolution. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on dispute prevention and resolution contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about dispute prevention and resolution?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in dispute prevention and resolution?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Petroleum policy and institutional governance

Learning objectives

- Explain petroleum policy and institutional governance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Petroleum policy and institutional governance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Law and Regulatory Compliance

Teaching notes

Teaching notes

Core explanation. Policy sets objectives, institutions assign authority, and governance creates accountability for decisions and resources. Explain government, regulator and state enterprise roles conceptually without asserting an unverified current Namibian structure.

Decision logic. Separate commercial participation from regulatory judgement and manage conflicts transparently. Define decision rights, disclosure, assurance and challenge. A strong governance design includes implementation capacity and an audit trail, not just an organisation chart.

Worked example. A fictional institution both promotes investment and evaluates its own project compliance, creating a conflict to manage.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Draft a responsibility matrix and conflict-management controls.

Model answer guide. Identify segregated decisions, independent review, declarations and public accountability where applicable.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Draft a responsibility matrix and conflict-management controls.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of petroleum policy and institutional governance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about petroleum policy and institutional governance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about petroleum policy and institutional governance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating petroleum policy and institutional governance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in petroleum policy and institutional governance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning petroleum policy and institutional governance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for petroleum policy and institutional governance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on petroleum policy and institutional governance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about petroleum policy and institutional governance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in petroleum policy and institutional governance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Local content and national value

Learning objectives

- Explain local content and national value, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Local content and national value
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Law and Regulatory Compliance

Teaching notes

Teaching notes

Core explanation. Local content can include employment, skills, supplier participation and durable industrial capability. Distinguish domestic ownership, local expenditure and actual value retained locally. A purchase from a locally registered importer may contain little domestic production.

Decision logic. Measure outcomes with a defined boundary, baseline and evidence. Avoid assuming a proposed policy target is current law. Supplier development must protect quality and safety while building realistic capacity and fair access.

Worked example. A fictional USD 1 million local invoice contains USD 850,000 imported equipment and USD 150,000 local services.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate the local-service share and propose more meaningful indicators.

Model answer guide. Fifteen percent in this simplified boundary; employment, skills and retained value need separate evidence.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Calculate the local-service share and propose more meaningful indicators.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of local content and national value?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about local content and national value?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about local content and national value be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating local content and national value?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in local content and national value?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning local content and national value?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for local content and national value. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on local content and national value contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about local content and national value?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in local content and national value?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Energy Law and Regulatory Compliance: Competence Review

Learning objectives

- Explain certificate in energy law and regulatory compliance: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Energy Law and Regulatory Compliance: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Law and Regulatory Compliance

Teaching notes

Teaching notes

Core explanation. Certificate in Energy Law and Regulatory Compliance: Competence Review describes a practical part of Certificate in Energy Law and Regulatory Compliance. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in energy law and regulatory compliance: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in energy law and regulatory compliance: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in energy law and regulatory compliance: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in energy law and regulatory compliance: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in energy law and regulatory compliance: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in energy law and regulatory compliance: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in energy law and regulatory compliance: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in energy law and regulatory compliance: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in energy law and regulatory compliance: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in energy law and regulatory compliance: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in energy law and regulatory compliance: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in energy law and regulatory compliance: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in energy law and regulatory compliance: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in energy law and regulatory compliance: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X22 | Certificate in Local Supplier Quality and HSE Readiness

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Local Supplier Quality and HSE Readiness, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Local Supplier Quality and HSE Readiness.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Supplier qualification and development

Learning objectives

- Explain supplier qualification and development, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Supplier qualification and development
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Local Supplier Quality and HSE Readiness

Teaching notes

Teaching notes

Core explanation. Supplier readiness combines legal identity, technical capability, HSE, quality, finance and delivery capacity. Prequalification is a screening stage, not an award guarantee. SMEs need clear evidence requirements and realistic package sizes.

Decision logic. Diagnose gaps and agree measurable development actions. Keep conflict-of-interest controls and transparent evaluation. A supplier can be ready for one package but not another; capability is scope-specific. Avoid treating registration on a portal as proof of competence.

Worked example. A small firm has strong fabrication skill but no traceable material-control process for the proposed package.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a supplier improvement plan with evidence and milestones.

Model answer guide. Include material traceability, qualified personnel, quality records and capacity checks matched to scope.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a supplier improvement plan with evidence and milestones.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of supplier qualification and development?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about supplier qualification and development?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about supplier qualification and development be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating supplier qualification and development?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in supplier qualification and development?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning supplier qualification and development?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for supplier qualification and development. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on supplier qualification and development contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about supplier qualification and development?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in supplier qualification and development?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Local content and national value

Learning objectives

- Explain local content and national value, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Local content and national value
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Local Supplier Quality and HSE Readiness

Teaching notes

Teaching notes

Core explanation. Local content can include employment, skills, supplier participation and durable industrial capability. Distinguish domestic ownership, local expenditure and actual value retained locally. A purchase from a locally registered importer may contain little domestic production.

Decision logic. Measure outcomes with a defined boundary, baseline and evidence. Avoid assuming a proposed policy target is current law. Supplier development must protect quality and safety while building realistic capacity and fair access.

Worked example. A fictional USD 1 million local invoice contains USD 850,000 imported equipment and USD 150,000 local services.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate the local-service share and propose more meaningful indicators.

Model answer guide. Fifteen percent in this simplified boundary; employment, skills and retained value need separate evidence.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Calculate the local-service share and propose more meaningful indicators.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of local content and national value?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about local content and national value?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about local content and national value be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating local content and national value?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in local content and national value?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning local content and national value?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for local content and national value. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on local content and national value contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about local content and national value?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in local content and national value?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Project quality and acceptance

Learning objectives

- Explain project quality and acceptance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Project quality and acceptance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Local Supplier Quality and HSE Readiness

Teaching notes

Teaching notes

Core explanation. Quality planning defines requirements, methods and evidence for conformance. Assurance evaluates the system; control checks outputs. Inspection and test plans use hold and witness points appropriate to consequence and scope.

Decision logic. Trace requirements through supplier records, fabrication, testing and handover. A test result must identify what was tested and against which criterion. Do not invent acceptance limits from generic training notes. Nonconformities require controlled disposition.

Worked example. A certificate reports a successful test but omits item identification and the acceptance basis.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review the fictional dossier and write a nonconformity and closure requirement.

Model answer guide. Require traceable identity, approved criteria, valid method and authorised disposition.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review the fictional dossier and write a nonconformity and closure requirement.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of project quality and acceptance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about project quality and acceptance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about project quality and acceptance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating project quality and acceptance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in project quality and acceptance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning project quality and acceptance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for project quality and acceptance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on project quality and acceptance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about project quality and acceptance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in project quality and acceptance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Offshore hazards and safe working

Learning objectives

- Explain offshore hazards and safe working, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Offshore hazards and safe working
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Local Supplier Quality and HSE Readiness

Teaching notes

Teaching notes

Core explanation. Hazards include moving machinery, hydrocarbons, pressure, electricity, weather, dropped objects and human exposure. Risk depends on likelihood and consequence in a defined task. Hazard recognition is the beginning of control, not permission to work.

Decision logic. Use elimination, substitution and engineered controls before relying only on procedures or PPE. Include manual handling and hazardous substances from the IMIST source themes. Train learners to stop and escalate unsafe conditions and remain within their authority.

Worked example. A walkway crosses a lifting zone. A helmet alone does not remove dropped-load exposure.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Identify five hazards in a fictional deck layout and propose controls in hierarchy order.

Model answer guide. Prefer segregation or changed routing over PPE alone; identify responsible verification.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Identify five hazards in a fictional deck layout and propose controls in hierarchy order.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of offshore hazards and safe working?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about offshore hazards and safe working?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about offshore hazards and safe working be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating offshore hazards and safe working?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in offshore hazards and safe working?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning offshore hazards and safe working?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for offshore hazards and safe working. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on offshore hazards and safe working contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about offshore hazards and safe working?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in offshore hazards and safe working?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Certificate in Local Supplier Quality and HSE Readiness: Work Planning

Learning objectives

- Explain certificate in local supplier quality and hse readiness: work planning, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Local Supplier Quality and HSE Readiness: Work Planning
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Local Supplier Quality and HSE Readiness

Teaching notes

Teaching notes

Core explanation. Certificate in Local Supplier Quality and HSE Readiness: Work Planning describes a practical part of Certificate in Local Supplier Quality and HSE Readiness. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in local supplier quality and hse readiness: work planning. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in local supplier quality and hse readiness: work planning while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in local supplier quality and hse readiness: work planning: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in local supplier quality and hse readiness: work planning: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in local supplier quality and hse readiness: work planning?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in local supplier quality and hse readiness: work planning?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in local supplier quality and hse readiness: work planning be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in local supplier quality and hse readiness: work planning?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in local supplier quality and hse readiness: work planning?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in local supplier quality and hse readiness: work planning?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in local supplier quality and hse readiness: work planning. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in local supplier quality and hse readiness: work planning contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in local supplier quality and hse readiness: work planning?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in local supplier quality and hse readiness: work planning?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Contract strategy and risk allocation

Learning objectives

- Explain contract strategy and risk allocation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Contract strategy and risk allocation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Local Supplier Quality and HSE Readiness

Teaching notes

Teaching notes

Core explanation. Contracts define scope, deliverables, payment, acceptance, change and remedies. Lump sum, reimbursable and target-cost arrangements allocate uncertainty differently. Begin with scope maturity and market capability rather than choosing a familiar contract label.

Decision logic. Risk should be allocated to parties able to manage it, with realistic pricing and assurance. Unclear interfaces create disputes despite detailed clauses. Actual indemnity, liability, insurance and governing-law terms require qualified legal and commercial review.

Worked example. A supplier prices an undefined offshore interface as an exclusion; the owner's total risk remains unresolved.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Draft a scope and interface schedule for a fictional package.

Model answer guide. Include deliverables, acceptance evidence, owner interfaces, change control and exclusions.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Draft a scope and interface schedule for a fictional package.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of contract strategy and risk allocation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about contract strategy and risk allocation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about contract strategy and risk allocation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating contract strategy and risk allocation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in contract strategy and risk allocation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning contract strategy and risk allocation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for contract strategy and risk allocation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on contract strategy and risk allocation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about contract strategy and risk allocation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in contract strategy and risk allocation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Procurement and supplier qualification

Learning objectives

- Explain procurement and supplier qualification, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Procurement and supplier qualification
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Local Supplier Quality and HSE Readiness

Teaching notes

Teaching notes

Core explanation. Procurement translates a defined need into sourcing, evaluation, award and contract management. Separate mandatory eligibility, technical acceptance and commercial comparison. Clear specifications and evaluation criteria should exist before bids are opened.

Decision logic. Manage conflicts, confidentiality and fair treatment. Lowest price may not be lowest evaluated cost if quality, delivery and lifecycle support differ. Document decisions and follow delegated authority; this classroom exercise awards no real contracts.

Worked example. A low bid excludes offshore mobilisation while another includes it.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Normalise three fictional bids and prepare an evaluation recommendation.

Model answer guide. Compare like-for-like scope, clarify exclusions and include risk with an auditable decision basis.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Normalise three fictional bids and prepare an evaluation recommendation.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of procurement and supplier qualification?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about procurement and supplier qualification?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about procurement and supplier qualification be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating procurement and supplier qualification?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in procurement and supplier qualification?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning procurement and supplier qualification?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for procurement and supplier qualification. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on procurement and supplier qualification contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about procurement and supplier qualification?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in procurement and supplier qualification?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Workplace competence and assessment evidence

Learning objectives

- Explain workplace competence and assessment evidence, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Workplace competence and assessment evidence
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Local Supplier Quality and HSE Readiness

Teaching notes

Teaching notes

Core explanation. Competence requires consistent performance against defined criteria in relevant conditions. Attendance and quiz scores are limited evidence. Use observation, work products, questioning and authenticated logbooks, with reasonable adjustments that preserve the required standard.

Decision logic. Assessors must be competent and authorised under the adopted scheme. Safety-critical steps are mandatory, not averaged away by other marks. Record not-yet-competent outcomes, feedback, remediation and reassessment. No national unit-standard equivalence is claimed without formal mapping and approval.

Worked example. A learner answers every question correctly but cannot identify an unsafe equipment condition during observation.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Plan two supervised observations and a logbook authentication method.

Model answer guide. Require task conditions, critical criteria, assessor signature, evidence and reassessment route.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Plan two supervised observations and a logbook authentication method.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of workplace competence and assessment evidence?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about workplace competence and assessment evidence?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about workplace competence and assessment evidence be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating workplace competence and assessment evidence?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in workplace competence and assessment evidence?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning workplace competence and assessment evidence?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for workplace competence and assessment evidence. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on workplace competence and assessment evidence contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about workplace competence and assessment evidence?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in workplace competence and assessment evidence?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Certificate in Local Supplier Quality and HSE Readiness: Knowledge Check

Learning objectives

- Explain certificate in local supplier quality and hse readiness: knowledge check, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Local Supplier Quality and HSE Readiness: Knowledge Check
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Local Supplier Quality and HSE Readiness

Teaching notes

Teaching notes

Core explanation. Certificate in Local Supplier Quality and HSE Readiness: Knowledge Check describes a practical part of Certificate in Local Supplier Quality and HSE Readiness. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in local supplier quality and hse readiness: knowledge check. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in local supplier quality and hse readiness: knowledge check while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in local supplier quality and hse readiness: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in local supplier quality and hse readiness: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in local supplier quality and hse readiness: knowledge check?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in local supplier quality and hse readiness: knowledge check?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in local supplier quality and hse readiness: knowledge check be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in local supplier quality and hse readiness: knowledge check?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in local supplier quality and hse readiness: knowledge check?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in local supplier quality and hse readiness: knowledge check?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in local supplier quality and hse readiness: knowledge check. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in local supplier quality and hse readiness: knowledge check contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in local supplier quality and hse readiness: knowledge check?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in local supplier quality and hse readiness: knowledge check?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Local Supplier Quality and HSE Readiness: Competence Review

Learning objectives

- Explain certificate in local supplier quality and hse readiness: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Local Supplier Quality and HSE Readiness: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Local Supplier Quality and HSE Readiness

Teaching notes

Teaching notes

Core explanation. Certificate in Local Supplier Quality and HSE Readiness: Competence Review describes a practical part of Certificate in Local Supplier Quality and HSE Readiness. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in local supplier quality and hse readiness: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in local supplier quality and hse readiness: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in local supplier quality and hse readiness: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in local supplier quality and hse readiness: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in local supplier quality and hse readiness: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in local supplier quality and hse readiness: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in local supplier quality and hse readiness: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in local supplier quality and hse readiness: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in local supplier quality and hse readiness: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in local supplier quality and hse readiness: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in local supplier quality and hse readiness: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in local supplier quality and hse readiness: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in local supplier quality and hse readiness: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in local supplier quality and hse readiness: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X23 | Certificate in Gas Commercialisation and Offtake

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Gas Commercialisation and Offtake, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Gas Commercialisation and Offtake.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Atmospheric testing principles

Learning objectives

- Explain atmospheric testing principles, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Atmospheric testing principles
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Gas Commercialisation and Offtake

Teaching notes

Teaching notes

Core explanation. Atmospheric testing considers oxygen, flammable and toxic hazards with instruments suitable for the task. Calibration, functional checks, sampling location, response time and sensor limitations affect validity. A reading is evidence at a place and time, not a permanent guarantee.

Decision logic. Use manufacturer-approved training and site procedures for actual instrument operation and acceptance limits. Teach why an unsuitable or failed sensor makes a reading unreliable. Do not prescribe entry thresholds or authorise testing competence through online questions alone.

Worked example. A detector displays zero but its required functional check failed. Zero cannot be trusted as proof of safe atmosphere.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Evaluate fictional detector records and decide whether evidence is fit for use.

Model answer guide. Reject unreliable evidence, withdraw the instrument according to procedure and escalate for approved replacement or review.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Evaluate fictional detector records and decide whether evidence is fit for use.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of atmospheric testing principles?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about atmospheric testing principles?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about atmospheric testing principles be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating atmospheric testing principles?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in atmospheric testing principles?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning atmospheric testing principles?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for atmospheric testing principles. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on atmospheric testing principles contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about atmospheric testing principles?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in atmospheric testing principles?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Certificate in Gas Commercialisation and Offtake: Risk Controls

Learning objectives

- Explain certificate in gas commercialisation and offtake: risk controls, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Gas Commercialisation and Offtake: Risk Controls
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Gas Commercialisation and Offtake

Teaching notes

Teaching notes

Core explanation. Certificate in Gas Commercialisation and Offtake: Risk Controls describes a practical part of Certificate in Gas Commercialisation and Offtake. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in gas commercialisation and offtake: risk controls. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in gas commercialisation and offtake: risk controls while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in gas commercialisation and offtake: risk controls: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in gas commercialisation and offtake: risk controls: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in gas commercialisation and offtake: risk controls?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in gas commercialisation and offtake: risk controls?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in gas commercialisation and offtake: risk controls be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in gas commercialisation and offtake: risk controls?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in gas commercialisation and offtake: risk controls?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in gas commercialisation and offtake: risk controls?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in gas commercialisation and offtake: risk controls. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in gas commercialisation and offtake: risk controls contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in gas commercialisation and offtake: risk controls?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in gas commercialisation and offtake: risk controls?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Offtaker qualification and crude sales

Learning objectives

- Explain offtaker qualification and crude sales, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Offtaker qualification and crude sales
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Gas Commercialisation and Offtake

Teaching notes

Teaching notes

Core explanation. Offtake evaluation combines buyer identity, ownership, trading capacity, credit, compliance, logistics and contract performance. Explain nomination, measurement, quality adjustment, payment security and delivery terms. Evidence should be verified through authorised sources.

Decision logic. Score technical and commercial capability separately from mandatory compliance requirements. Consider payment timing, security enforceability and concentration risk. A letter of interest is not a binding purchase obligation. Legal and credit specialists approve actual counterparties and terms.

Worked example. An unknown buyer offers the highest price but cannot substantiate credit support or receiving capacity.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a due-diligence checklist and conditional recommendation for three fictional buyers.

Model answer guide. Reject price-only ranking and document unresolved credit and delivery risks.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a due-diligence checklist and conditional recommendation for three fictional buyers.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of offtaker qualification and crude sales?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about offtaker qualification and crude sales?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about offtaker qualification and crude sales be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating offtaker qualification and crude sales?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in offtaker qualification and crude sales?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning offtaker qualification and crude sales?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for offtaker qualification and crude sales. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on offtaker qualification and crude sales contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about offtaker qualification and crude sales?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in offtaker qualification and crude sales?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Global petroleum markets and price formation

Learning objectives

- Explain global petroleum markets and price formation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Global petroleum markets and price formation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Gas Commercialisation and Offtake

Teaching notes

Teaching notes

Core explanation. Crude markets connect producers, traders, refiners and transport providers. Prices often reference benchmarks adjusted for quality, location and contract terms. OPEC is a producers' organisation, not a buyer qualification or an assurance of payment.

Decision logic. Separate physical delivery, price exposure and credit exposure. A high headline price can be offset by freight, quality discounts, finance or default risk. No company is labelled reliable without current due diligence and an approved transaction basis.

Worked example. Offer A is USD 75/barrel with USD 5 freight; offer B is USD 73 with USD 1 freight, before other terms.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Compare simplified netbacks and identify non-price checks.

Model answer guide. A gives 70 and B gives 72 USD/barrel; check credit, delivery, sanctions and quality terms before selection.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Compare simplified netbacks and identify non-price checks.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of global petroleum markets and price formation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about global petroleum markets and price formation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about global petroleum markets and price formation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating global petroleum markets and price formation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in global petroleum markets and price formation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning global petroleum markets and price formation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for global petroleum markets and price formation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on global petroleum markets and price formation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about global petroleum markets and price formation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in global petroleum markets and price formation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Contract strategy and risk allocation

Learning objectives

- Explain contract strategy and risk allocation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Contract strategy and risk allocation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Gas Commercialisation and Offtake

Teaching notes

Teaching notes

Core explanation. Contracts define scope, deliverables, payment, acceptance, change and remedies. Lump sum, reimbursable and target-cost arrangements allocate uncertainty differently. Begin with scope maturity and market capability rather than choosing a familiar contract label.

Decision logic. Risk should be allocated to parties able to manage it, with realistic pricing and assurance. Unclear interfaces create disputes despite detailed clauses. Actual indemnity, liability, insurance and governing-law terms require qualified legal and commercial review.

Worked example. A supplier prices an undefined offshore interface as an exclusion; the owner's total risk remains unresolved.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Draft a scope and interface schedule for a fictional package.

Model answer guide. Include deliverables, acceptance evidence, owner interfaces, change control and exclusions.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Draft a scope and interface schedule for a fictional package.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of contract strategy and risk allocation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about contract strategy and risk allocation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about contract strategy and risk allocation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating contract strategy and risk allocation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in contract strategy and risk allocation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning contract strategy and risk allocation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for contract strategy and risk allocation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on contract strategy and risk allocation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about contract strategy and risk allocation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in contract strategy and risk allocation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Crude oil quality and assay interpretation

Learning objectives

- Explain crude oil quality and assay interpretation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Crude oil quality and assay interpretation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Gas Commercialisation and Offtake

Teaching notes

Teaching notes

Core explanation. Crude properties include density, sulfur, acidity, metals, salt, water and distillation behaviour. API gravity is a density scale, not a complete quality grade. Explain how crude assay and sampling representativeness affect refinery fit and valuation.

Decision logic. A light crude can still present processing or materials challenges. Compare whole-crude properties with fraction yields and contaminants. Distinguish a laboratory result, a contractual specification and a refinery's acceptable feed envelope.

Worked example. Two hypothetical crudes have similar API gravity but very different sulfur and metals contents.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Compare the two fictional assays and list additional data needed for refinery selection.

Model answer guide. Include contaminant management, fraction yields, blending and sampling quality; avoid ranking by API gravity alone.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Compare the two fictional assays and list additional data needed for refinery selection.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of crude oil quality and assay interpretation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about crude oil quality and assay interpretation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about crude oil quality and assay interpretation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating crude oil quality and assay interpretation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in crude oil quality and assay interpretation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning crude oil quality and assay interpretation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for crude oil quality and assay interpretation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on crude oil quality and assay interpretation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about crude oil quality and assay interpretation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in crude oil quality and assay interpretation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Marine aviation and offshore logistics

Learning objectives

- Explain marine aviation and offshore logistics, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Marine aviation and offshore logistics
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Gas Commercialisation and Offtake

Teaching notes

Teaching notes

Core explanation. Marine and aviation logistics move people and materials through different capacity, weather and regulatory constraints. Explain planning, manifests, interfaces and contingency arrangements. Passenger and cargo operations require appropriate specialist authorisation.

Decision logic. Evaluate reliability and total service needs, not only transport price. Emergency arrangements, dangerous goods and communications affect planning. Do not infer STCW, aviation or offshore survival certification from this course. Real limits and booking approvals remain with authorised operators.

Worked example. A fictional weather delay blocks a planned crew change and critical spare delivery.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Develop a contingency plan that protects personnel welfare and operating limits.

Model answer guide. Include accommodation, revised schedules, priority cargo, communications and approved alternatives.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Develop a contingency plan that protects personnel welfare and operating limits.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of marine aviation and offshore logistics?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about marine aviation and offshore logistics?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about marine aviation and offshore logistics be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating marine aviation and offshore logistics?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in marine aviation and offshore logistics?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning marine aviation and offshore logistics?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for marine aviation and offshore logistics. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on marine aviation and offshore logistics contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about marine aviation and offshore logistics?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in marine aviation and offshore logistics?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Certificate in Gas Commercialisation and Offtake: Communication and Escalation

Learning objectives

- Explain certificate in gas commercialisation and offtake: communication and escalation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Gas Commercialisation and Offtake: Communication and Escalation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Gas Commercialisation and Offtake

Teaching notes

Teaching notes

Core explanation. Certificate in Gas Commercialisation and Offtake: Communication and Escalation describes a practical part of Certificate in Gas Commercialisation and Offtake. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in gas commercialisation and offtake: communication and escalation. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in gas commercialisation and offtake: communication and escalation while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in gas commercialisation and offtake: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in gas commercialisation and offtake: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in gas commercialisation and offtake: communication and escalation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in gas commercialisation and offtake: communication and escalation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in gas commercialisation and offtake: communication and escalation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in gas commercialisation and offtake: communication and escalation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in gas commercialisation and offtake: communication and escalation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in gas commercialisation and offtake: communication and escalation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in gas commercialisation and offtake: communication and escalation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in gas commercialisation and offtake: communication and escalation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in gas commercialisation and offtake: communication and escalation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in gas commercialisation and offtake: communication and escalation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Petroleum economics overview

Learning objectives

- Explain petroleum economics overview, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Petroleum economics overview
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Gas Commercialisation and Offtake

Teaching notes

Teaching notes

Core explanation. Economics translates technical scenarios into cash-flow consequences. Define decision alternatives and the perspective first, then estimate volume, timing, realised prices, costs, fiscal payments and closure. Compare value, affordability and exposure together.

Decision logic. Use transparent assumptions with units and source dates. A model's arithmetic can be correct while its development assumptions are implausible. Separate geological uncertainty, engineering uncertainty and market risk, and show which could reverse the decision.

Worked example. Two fictional projects have equal undiscounted cash surplus but one receives cash five years later.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Explain which may have greater present value and what additional information is required.

Model answer guide. Earlier comparable cash usually has greater present value at positive discount rates; require timing and risk details.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Explain which may have greater present value and what additional information is required.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of petroleum economics overview?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about petroleum economics overview?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about petroleum economics overview be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating petroleum economics overview?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in petroleum economics overview?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning petroleum economics overview?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for petroleum economics overview. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on petroleum economics overview contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about petroleum economics overview?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in petroleum economics overview?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Gas Commercialisation and Offtake: Competence Review

Learning objectives

- Explain certificate in gas commercialisation and offtake: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Gas Commercialisation and Offtake: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Gas Commercialisation and Offtake

Teaching notes

Teaching notes

Core explanation. Certificate in Gas Commercialisation and Offtake: Competence Review describes a practical part of Certificate in Gas Commercialisation and Offtake. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in gas commercialisation and offtake: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in gas commercialisation and offtake: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in gas commercialisation and offtake: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in gas commercialisation and offtake: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in gas commercialisation and offtake: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in gas commercialisation and offtake: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in gas commercialisation and offtake: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in gas commercialisation and offtake: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in gas commercialisation and offtake: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in gas commercialisation and offtake: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in gas commercialisation and offtake: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in gas commercialisation and offtake: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in gas commercialisation and offtake: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in gas commercialisation and offtake: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X24 | Certificate in Occupational Health for Energy Workplaces

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Occupational Health for Energy Workplaces, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Occupational Health for Energy Workplaces.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Certificate in Occupational Health for Energy Workplaces: Core Concepts

Learning objectives

- Explain certificate in occupational health for energy workplaces: core concepts, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Occupational Health for Energy Workplaces: Core Concepts
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Occupational Health for Energy Workplaces

Teaching notes

Teaching notes

Core explanation. Certificate in Occupational Health for Energy Workplaces: Core Concepts describes a practical part of Certificate in Occupational Health for Energy Workplaces. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in occupational health for energy workplaces: core concepts. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in occupational health for energy workplaces: core concepts while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in occupational health for energy workplaces: core concepts: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in occupational health for energy workplaces: core concepts: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in occupational health for energy workplaces: core concepts?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in occupational health for energy workplaces: core concepts?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in occupational health for energy workplaces: core concepts be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in occupational health for energy workplaces: core concepts?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in occupational health for energy workplaces: core concepts?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in occupational health for energy workplaces: core concepts?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in occupational health for energy workplaces: core concepts. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in occupational health for energy workplaces: core concepts contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in occupational health for energy workplaces: core concepts?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in occupational health for energy workplaces: core concepts?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Offshore hazards and safe working

Learning objectives

- Explain offshore hazards and safe working, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Offshore hazards and safe working
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Occupational Health for Energy Workplaces

Teaching notes

Teaching notes

Core explanation. Hazards include moving machinery, hydrocarbons, pressure, electricity, weather, dropped objects and human exposure. Risk depends on likelihood and consequence in a defined task. Hazard recognition is the beginning of control, not permission to work.

Decision logic. Use elimination, substitution and engineered controls before relying only on procedures or PPE. Include manual handling and hazardous substances from the IMIST source themes. Train learners to stop and escalate unsafe conditions and remain within their authority.

Worked example. A walkway crosses a lifting zone. A helmet alone does not remove dropped-load exposure.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Identify five hazards in a fictional deck layout and propose controls in hierarchy order.

Model answer guide. Prefer segregation or changed routing over PPE alone; identify responsible verification.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Identify five hazards in a fictional deck layout and propose controls in hierarchy order.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of offshore hazards and safe working?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about offshore hazards and safe working?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about offshore hazards and safe working be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating offshore hazards and safe working?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in offshore hazards and safe working?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning offshore hazards and safe working?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for offshore hazards and safe working. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on offshore hazards and safe working contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about offshore hazards and safe working?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in offshore hazards and safe working?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Certificate in Occupational Health for Energy Workplaces: Systems and Interfaces

Learning objectives

- Explain certificate in occupational health for energy workplaces: systems and interfaces, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Occupational Health for Energy Workplaces: Systems and Interfaces
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Occupational Health for Energy Workplaces

Teaching notes

Teaching notes

Core explanation. Certificate in Occupational Health for Energy Workplaces: Systems and Interfaces describes a practical part of Certificate in Occupational Health for Energy Workplaces. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in occupational health for energy workplaces: systems and interfaces. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in occupational health for energy workplaces: systems and interfaces while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in occupational health for energy workplaces: systems and interfaces: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in occupational health for energy workplaces: systems and interfaces: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in occupational health for energy workplaces: systems and interfaces?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in occupational health for energy workplaces: systems and interfaces?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in occupational health for energy workplaces: systems and interfaces be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in occupational health for energy workplaces: systems and interfaces?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in occupational health for energy workplaces: systems and interfaces?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in occupational health for energy workplaces: systems and interfaces?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in occupational health for energy workplaces: systems and interfaces. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in occupational health for energy workplaces: systems and interfaces contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in occupational health for energy workplaces: systems and interfaces?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in occupational health for energy workplaces: systems and interfaces?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Certificate in Occupational Health for Energy Workplaces: Evidence and Decision Gates

Learning objectives

- Explain certificate in occupational health for energy workplaces: evidence and decision gates, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Occupational Health for Energy Workplaces: Evidence and Decision Gates
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Occupational Health for Energy Workplaces

Teaching notes

Teaching notes

Core explanation. Certificate in Occupational Health for Energy Workplaces: Evidence and Decision Gates describes a practical part of Certificate in Occupational Health for Energy Workplaces. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in occupational health for energy workplaces: evidence and decision gates. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in occupational health for energy workplaces: evidence and decision gates while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in occupational health for energy workplaces: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in occupational health for energy workplaces: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in occupational health for energy workplaces: evidence and decision gates?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in occupational health for energy workplaces: evidence and decision gates?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in occupational health for energy workplaces: evidence and decision gates be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in occupational health for energy workplaces: evidence and decision gates?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in occupational health for energy workplaces: evidence and decision gates?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in occupational health for energy workplaces: evidence and decision gates?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in occupational health for energy workplaces: evidence and decision gates. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in occupational health for energy workplaces: evidence and decision gates contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in occupational health for energy workplaces: evidence and decision gates?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in occupational health for energy workplaces: evidence and decision gates?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Emergency preparedness and command

Learning objectives

- Explain emergency preparedness and command, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Emergency preparedness and command
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Occupational Health for Energy Workplaces

Teaching notes

Teaching notes

Core explanation. Emergency planning identifies credible scenarios, warning, command, communications, muster, evacuation, medical support and external interfaces. Responsibilities and fallback communications should be understood before an event. Awareness differs from emergency-team qualification.

Decision logic. Use tabletop exercises with timed injects, observer records and debrief actions. Test loss of communications or unavailable resources. Never simulate an actual distress call or activate real emergency equipment without authorised arrangements.

Worked example. A fictional offshore incident interrupts the primary communication link during a weather restriction.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Run a tabletop with incident controller, operations, logistics and communications roles.

Model answer guide. Prioritise people, establish command, verify information, use planned backup channels and document decisions.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Run a tabletop with incident controller, operations, logistics and communications roles.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of emergency preparedness and command?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about emergency preparedness and command?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about emergency preparedness and command be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating emergency preparedness and command?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in emergency preparedness and command?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning emergency preparedness and command?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for emergency preparedness and command. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on emergency preparedness and command contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about emergency preparedness and command?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in emergency preparedness and command?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Marine monitoring and evidence quality

Learning objectives

- Explain marine monitoring and evidence quality, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Marine monitoring and evidence quality
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Occupational Health for Energy Workplaces

Teaching notes

Teaching notes

Core explanation. Monitoring tests defined questions using repeatable sampling, measurement and analysis. Explain baseline, reference locations, quality control and detection limits. A changing measurement does not establish its cause automatically.

Decision logic. Specify indicators, frequency, methods, responsibilities and action thresholds through competent review. Maintain chain of custody and calibration records. Interpret trends alongside natural variability and other activities. Avoid using unsupported universal compliance limits.

Worked example. A sample result rises after a storm at both project and reference locations.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Interpret the result and propose a proportionate follow-up.

Model answer guide. Consider regional variability, method quality and exposure pathways before attributing causation.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Interpret the result and propose a proportionate follow-up.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of marine monitoring and evidence quality?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about marine monitoring and evidence quality?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about marine monitoring and evidence quality be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating marine monitoring and evidence quality?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in marine monitoring and evidence quality?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning marine monitoring and evidence quality?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for marine monitoring and evidence quality. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on marine monitoring and evidence quality contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about marine monitoring and evidence quality?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in marine monitoring and evidence quality?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Petroleum legislative architecture

Learning objectives

- Explain petroleum legislative architecture, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Petroleum legislative architecture
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Occupational Health for Energy Workplaces

Teaching notes

Teaching notes

Core explanation. Distinguish legislation, regulations, licence conditions, contracts and internal procedures. Public-law obligations and private agreements serve different functions. A commercial agreement cannot be assumed to waive a statutory requirement. Identify which authority and jurisdiction govern each issue.

Decision logic. Teach a verification method rather than unverified current legal rules: locate the official instrument, record amendment and commencement status, confirm applicability, and obtain qualified review. Classroom comparisons of concessions and PSAs are not statements of Namibia's adopted system.

Worked example. A contract refers to an old environmental instrument; the legal register must check current requirements before relying on it.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Create a legal-register template for exploration, development and operations.

Model answer guide. Include instrument, version, duty, applicability, owner, evidence and next review date.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Create a legal-register template for exploration, development and operations.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of petroleum legislative architecture?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about petroleum legislative architecture?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about petroleum legislative architecture be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating petroleum legislative architecture?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in petroleum legislative architecture?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning petroleum legislative architecture?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for petroleum legislative architecture. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on petroleum legislative architecture contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about petroleum legislative architecture?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in petroleum legislative architecture?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Safety and project leadership

Learning objectives

- Explain safety and project leadership, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Safety and project leadership
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Occupational Health for Energy Workplaces

Teaching notes

Teaching notes

Core explanation. Leadership sets priorities through decisions, resources and response to bad news. Explain the difference between stated values and incentives that reward unsafe shortcuts. Leaders need clear delegation, listening and evidence-based challenge.

Decision logic. Use leading indicators tied to important barriers and delivery outcomes. Review overdue actions and organisational capacity, not just aggregate counts. Encourage escalation and resolve conflicting objectives openly. Authority remains accountable even when tasks are delegated.

Worked example. A manager requests schedule recovery while critical tests are incomplete. The team must resolve priorities explicitly.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Write a leadership response and a 30-day improvement plan.

Model answer guide. Require safe sequencing, resources, action owners and follow-up; do not reward concealment of incomplete work.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Write a leadership response and a 30-day improvement plan.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of safety and project leadership?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about safety and project leadership?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about safety and project leadership be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating safety and project leadership?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in safety and project leadership?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning safety and project leadership?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for safety and project leadership. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on safety and project leadership contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about safety and project leadership?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in safety and project leadership?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Workplace competence and assessment evidence

Learning objectives

- Explain workplace competence and assessment evidence, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Workplace competence and assessment evidence
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Occupational Health for Energy Workplaces

Teaching notes

Teaching notes

Core explanation. Competence requires consistent performance against defined criteria in relevant conditions. Attendance and quiz scores are limited evidence. Use observation, work products, questioning and authenticated logbooks, with reasonable adjustments that preserve the required standard.

Decision logic. Assessors must be competent and authorised under the adopted scheme. Safety-critical steps are mandatory, not averaged away by other marks. Record not-yet-competent outcomes, feedback, remediation and reassessment. No national unit-standard equivalence is claimed without formal mapping and approval.

Worked example. A learner answers every question correctly but cannot identify an unsafe equipment condition during observation.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Plan two supervised observations and a logbook authentication method.

Model answer guide. Require task conditions, critical criteria, assessor signature, evidence and reassessment route.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Plan two supervised observations and a logbook authentication method.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of workplace competence and assessment evidence?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about workplace competence and assessment evidence?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about workplace competence and assessment evidence be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating workplace competence and assessment evidence?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in workplace competence and assessment evidence?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning workplace competence and assessment evidence?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for workplace competence and assessment evidence. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on workplace competence and assessment evidence contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about workplace competence and assessment evidence?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in workplace competence and assessment evidence?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Occupational Health for Energy Workplaces: Competence Review

Learning objectives

- Explain certificate in occupational health for energy workplaces: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Occupational Health for Energy Workplaces: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Occupational Health for Energy Workplaces

Teaching notes

Teaching notes

Core explanation. Certificate in Occupational Health for Energy Workplaces: Competence Review describes a practical part of Certificate in Occupational Health for Energy Workplaces. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in occupational health for energy workplaces: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in occupational health for energy workplaces: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in occupational health for energy workplaces: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in occupational health for energy workplaces: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in occupational health for energy workplaces: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in occupational health for energy workplaces: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in occupational health for energy workplaces: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in occupational health for energy workplaces: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in occupational health for energy workplaces: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in occupational health for energy workplaces: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in occupational health for energy workplaces: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in occupational health for energy workplaces: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in occupational health for energy workplaces: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in occupational health for energy workplaces: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X25 | Certificate in Energy Project Risk and Assurance

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Energy Project Risk and Assurance, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Energy Project Risk and Assurance.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Project initiation and governance

Learning objectives

- Explain project initiation and governance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Project initiation and governance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Project Risk and Assurance

Teaching notes

Teaching notes

Core explanation. A project charter defines purpose, intended benefits, scope boundary, sponsor, authority and success criteria. Distinguish a project output from the benefit it enables. Governance establishes who approves funding, change and acceptance at each stage.

Decision logic. Test alignment with business need and implementation capacity before detailed planning. Record assumptions and dependencies. A charter should identify exclusions and decision rights rather than promising guaranteed results. Benefits need an owner beyond project handover.

Worked example. A fictional project delivers a warehouse system; the intended benefit is reduced picking errors, which must be measured separately.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Write a one-page charter with benefits, authority and evidence of success.

Model answer guide. Include sponsor, measurable outcomes, scope, constraints, assumptions and acceptance owner.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Write a one-page charter with benefits, authority and evidence of success.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of project initiation and governance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about project initiation and governance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about project initiation and governance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating project initiation and governance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in project initiation and governance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning project initiation and governance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for project initiation and governance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on project initiation and governance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about project initiation and governance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in project initiation and governance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Scope and work breakdown structures

Learning objectives

- Explain scope and work breakdown structures, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Scope and work breakdown structures
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Project Risk and Assurance

Teaching notes

Teaching notes

Core explanation. Scope defines required outputs and boundaries. A WBS decomposes deliverables into manageable work packages; a dictionary clarifies content, exclusions and acceptance. Activities are derived from scope rather than substituted for it.

Decision logic. Trace requirements to deliverables and verification. Check for omissions, overlap and owner interfaces. Scope changes should assess cost, schedule, risk and benefits before approval. A detailed WBS is useful only when it supports responsibility and control.

Worked example. Two teams both assume the other supplies offshore installation support.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Build a WBS and dictionary entry resolving the missing interface.

Model answer guide. Assign the deliverable, acceptance evidence, owner and boundary explicitly.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Build a WBS and dictionary entry resolving the missing interface.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of scope and work breakdown structures?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about scope and work breakdown structures?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about scope and work breakdown structures be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating scope and work breakdown structures?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in scope and work breakdown structures?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning scope and work breakdown structures?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for scope and work breakdown structures. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on scope and work breakdown structures contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about scope and work breakdown structures?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in scope and work breakdown structures?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Risk assessment and uncertainty management

Learning objectives

- Explain risk assessment and uncertainty management, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Risk assessment and uncertainty management
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Project Risk and Assurance

Teaching notes

Teaching notes

Core explanation. Define the activity and potential harm, identify hazards, evaluate existing controls, then decide further controls and ownership. A risk matrix supports prioritisation but does not prove a risk is tolerable. Include affected people and changing conditions.

Decision logic. Test whether controls are present and effective. Residual risk should be reassessed after control implementation, not merely after a promise. Escalate high-consequence uncertainty for competent review. Project risk also includes schedule, cost and opportunity effects.

Worked example. A permit lists a barrier that has not yet been installed. The claimed residual risk is premature.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Complete a risk register with cause, event, consequence, control, owner and verification.

Model answer guide. Keep hazard and consequence distinct and require evidence before taking control credit.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Complete a risk register with cause, event, consequence, control, owner and verification.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of risk assessment and uncertainty management?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about risk assessment and uncertainty management?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about risk assessment and uncertainty management be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating risk assessment and uncertainty management?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in risk assessment and uncertainty management?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning risk assessment and uncertainty management?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for risk assessment and uncertainty management. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on risk assessment and uncertainty management contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about risk assessment and uncertainty management?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in risk assessment and uncertainty management?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Project quality and acceptance

Learning objectives

- Explain project quality and acceptance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Project quality and acceptance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Project Risk and Assurance

Teaching notes

Teaching notes

Core explanation. Quality planning defines requirements, methods and evidence for conformance. Assurance evaluates the system; control checks outputs. Inspection and test plans use hold and witness points appropriate to consequence and scope.

Decision logic. Trace requirements through supplier records, fabrication, testing and handover. A test result must identify what was tested and against which criterion. Do not invent acceptance limits from generic training notes. Nonconformities require controlled disposition.

Worked example. A certificate reports a successful test but omits item identification and the acceptance basis.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Review the fictional dossier and write a nonconformity and closure requirement.

Model answer guide. Require traceable identity, approved criteria, valid method and authorised disposition.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Review the fictional dossier and write a nonconformity and closure requirement.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of project quality and acceptance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about project quality and acceptance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about project quality and acceptance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating project quality and acceptance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in project quality and acceptance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning project quality and acceptance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for project quality and acceptance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on project quality and acceptance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about project quality and acceptance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in project quality and acceptance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Certificate in Energy Project Risk and Assurance: Work Planning

Learning objectives

- Explain certificate in energy project risk and assurance: work planning, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Energy Project Risk and Assurance: Work Planning
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Project Risk and Assurance

Teaching notes

Teaching notes

Core explanation. Certificate in Energy Project Risk and Assurance: Work Planning describes a practical part of Certificate in Energy Project Risk and Assurance. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in energy project risk and assurance: work planning. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in energy project risk and assurance: work planning while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in energy project risk and assurance: work planning: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in energy project risk and assurance: work planning: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in energy project risk and assurance: work planning?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in energy project risk and assurance: work planning?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in energy project risk and assurance: work planning be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in energy project risk and assurance: work planning?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in energy project risk and assurance: work planning?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in energy project risk and assurance: work planning?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in energy project risk and assurance: work planning. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in energy project risk and assurance: work planning contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in energy project risk and assurance: work planning?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in energy project risk and assurance: work planning?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: CAPEX OPEX and estimating

Learning objectives

- Explain capex opex and estimating, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of CAPEX OPEX and estimating
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Project Risk and Assurance

Teaching notes

Teaching notes

Core explanation. Capital estimates cover assets and development; operating estimates cover recurring delivery and support activities. Define scope, price basis, location, currency, schedule and exclusions before estimating. A number without its basis is difficult to review.

Decision logic. Use analogous, parametric and bottom-up methods according to data maturity. Separate base estimate, identified risk contingency and other reserves under the adopted governance. Avoid implying that contingency is spare money for scope additions.

Worked example. A fictional equipment package is 10 million and installation is estimated at 40% of equipment cost; subtotal is 14 million before other scope.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Write an estimate basis and identify five excluded cost items.

Model answer guide. Include logistics, commissioning, taxes, spares and owner costs where appropriate; state assumptions rather than silently adding them.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Write an estimate basis and identify five excluded cost items.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of capex opex and estimating?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about capex opex and estimating?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about capex opex and estimating be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating capex opex and estimating?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in capex opex and estimating?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning capex opex and estimating?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for capex opex and estimating. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on capex opex and estimating contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about capex opex and estimating?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in capex opex and estimating?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Planning scheduling and critical path

Learning objectives

- Explain planning scheduling and critical path, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Planning scheduling and critical path
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Project Risk and Assurance

Teaching notes

Teaching notes

Core explanation. A schedule links activities through dependencies, durations, calendars and resources. Critical path identifies the longest duration path under the model's assumptions. Float is a calculated property, not spare time owned automatically by one team.

Decision logic. Validate logic before trusting dates. Resource constraints and uncertain weather windows can change the critical path. Compression may add cost or risk. State assumptions and update from actual progress rather than forcing the plan to match a desired date.

Worked example. Path A takes 3 plus 4 days; parallel path B takes 5 days. The simplified project duration is 7 days.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate duration after A's first task increases to 5 days.

Model answer guide. The A path becomes 9 days; assess downstream effects and valid recovery choices.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Calculate duration after A's first task increases to 5 days.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of planning scheduling and critical path?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about planning scheduling and critical path?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about planning scheduling and critical path be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating planning scheduling and critical path?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in planning scheduling and critical path?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning planning scheduling and critical path?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for planning scheduling and critical path. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on planning scheduling and critical path contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about planning scheduling and critical path?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in planning scheduling and critical path?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Stakeholder engagement and communication

Learning objectives

- Explain stakeholder engagement and communication, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Stakeholder engagement and communication
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Project Risk and Assurance

Teaching notes

Teaching notes

Core explanation. Stakeholders can affect or be affected by a project. Analyse interests, influence, exposure and communication needs. Consultation is a continuing process, not simply sending information. Include groups with high impact exposure but limited formal power.

Decision logic. Choose accessible channels and record concerns, responses and decisions. Avoid assuming silence equals consent. Communication plans should define purpose, owner, timing, feedback and confidentiality. Actual commitments need delegated authority.

Worked example. A fictional port project consults officials but overlooks fishers whose access may change.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Develop an engagement plan and grievance-response route.

Model answer guide. Include affected groups, accessible formats, response tracking and boundaries on commitments.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Develop an engagement plan and grievance-response route.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of stakeholder engagement and communication?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about stakeholder engagement and communication?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about stakeholder engagement and communication be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating stakeholder engagement and communication?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in stakeholder engagement and communication?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning stakeholder engagement and communication?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for stakeholder engagement and communication. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on stakeholder engagement and communication contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about stakeholder engagement and communication?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in stakeholder engagement and communication?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Petroleum policy and institutional governance

Learning objectives

- Explain petroleum policy and institutional governance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Petroleum policy and institutional governance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Project Risk and Assurance

Teaching notes

Teaching notes

Core explanation. Policy sets objectives, institutions assign authority, and governance creates accountability for decisions and resources. Explain government, regulator and state enterprise roles conceptually without asserting an unverified current Namibian structure.

Decision logic. Separate commercial participation from regulatory judgement and manage conflicts transparently. Define decision rights, disclosure, assurance and challenge. A strong governance design includes implementation capacity and an audit trail, not just an organisation chart.

Worked example. A fictional institution both promotes investment and evaluates its own project compliance, creating a conflict to manage.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Draft a responsibility matrix and conflict-management controls.

Model answer guide. Identify segregated decisions, independent review, declarations and public accountability where applicable.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Draft a responsibility matrix and conflict-management controls.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of petroleum policy and institutional governance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about petroleum policy and institutional governance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about petroleum policy and institutional governance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating petroleum policy and institutional governance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in petroleum policy and institutional governance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning petroleum policy and institutional governance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for petroleum policy and institutional governance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on petroleum policy and institutional governance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about petroleum policy and institutional governance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in petroleum policy and institutional governance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Energy Project Risk and Assurance: Competence Review

Learning objectives

- Explain certificate in energy project risk and assurance: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Energy Project Risk and Assurance: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Project Risk and Assurance

Teaching notes

Teaching notes

Core explanation. Certificate in Energy Project Risk and Assurance: Competence Review describes a practical part of Certificate in Energy Project Risk and Assurance. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in energy project risk and assurance: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in energy project risk and assurance: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in energy project risk and assurance: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in energy project risk and assurance: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in energy project risk and assurance: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in energy project risk and assurance: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in energy project risk and assurance: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in energy project risk and assurance: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in energy project risk and assurance: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in energy project risk and assurance: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in energy project risk and assurance: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in energy project risk and assurance: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in energy project risk and assurance: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in energy project risk and assurance: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X26 | Certificate in Energy Negotiation and Stakeholder Practice

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Energy Negotiation and Stakeholder Practice, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Energy Negotiation and Stakeholder Practice.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Contract negotiation simulation

Learning objectives

- Explain contract negotiation simulation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Contract negotiation simulation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Negotiation and Stakeholder Practice

Teaching notes

Teaching notes

Core explanation. Negotiation preparation identifies objectives, alternatives, authority and acceptable tradeoffs. Separate positions from underlying interests. Technical and fiscal terms interact with schedule, investment and risk; avoid negotiating a headline number in isolation.

Decision logic. Use a mandate sheet and issue log. Teams cannot commit outside delegated authority. Explore package trades, test downside consequences and record unresolved points before drafting. This role-play creates no actual offer, agreement or legal advice.

Worked example. The fictional state team values training commitments while an investor values schedule certainty; both need measurable and feasible terms.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Run a three-round negotiation and submit an unsigned term sheet plus risk commentary.

Model answer guide. Credit quantified commitments, authority checks, alternatives, clear conditions and documented unresolved issues.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Run a three-round negotiation and submit an unsigned term sheet plus risk commentary.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of contract negotiation simulation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about contract negotiation simulation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about contract negotiation simulation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating contract negotiation simulation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in contract negotiation simulation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning contract negotiation simulation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for contract negotiation simulation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on contract negotiation simulation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about contract negotiation simulation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in contract negotiation simulation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Stakeholder engagement and communication

Learning objectives

- Explain stakeholder engagement and communication, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Stakeholder engagement and communication
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Negotiation and Stakeholder Practice

Teaching notes

Teaching notes

Core explanation. Stakeholders can affect or be affected by a project. Analyse interests, influence, exposure and communication needs. Consultation is a continuing process, not simply sending information. Include groups with high impact exposure but limited formal power.

Decision logic. Choose accessible channels and record concerns, responses and decisions. Avoid assuming silence equals consent. Communication plans should define purpose, owner, timing, feedback and confidentiality. Actual commitments need delegated authority.

Worked example. A fictional port project consults officials but overlooks fishers whose access may change.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Develop an engagement plan and grievance-response route.

Model answer guide. Include affected groups, accessible formats, response tracking and boundaries on commitments.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Develop an engagement plan and grievance-response route.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of stakeholder engagement and communication?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about stakeholder engagement and communication?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about stakeholder engagement and communication be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating stakeholder engagement and communication?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in stakeholder engagement and communication?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning stakeholder engagement and communication?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for stakeholder engagement and communication. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on stakeholder engagement and communication contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about stakeholder engagement and communication?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in stakeholder engagement and communication?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Contract strategy and risk allocation

Learning objectives

- Explain contract strategy and risk allocation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Contract strategy and risk allocation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Negotiation and Stakeholder Practice

Teaching notes

Teaching notes

Core explanation. Contracts define scope, deliverables, payment, acceptance, change and remedies. Lump sum, reimbursable and target-cost arrangements allocate uncertainty differently. Begin with scope maturity and market capability rather than choosing a familiar contract label.

Decision logic. Risk should be allocated to parties able to manage it, with realistic pricing and assurance. Unclear interfaces create disputes despite detailed clauses. Actual indemnity, liability, insurance and governing-law terms require qualified legal and commercial review.

Worked example. A supplier prices an undefined offshore interface as an exclusion; the owner's total risk remains unresolved.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Draft a scope and interface schedule for a fictional package.

Model answer guide. Include deliverables, acceptance evidence, owner interfaces, change control and exclusions.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Draft a scope and interface schedule for a fictional package.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of contract strategy and risk allocation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about contract strategy and risk allocation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about contract strategy and risk allocation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating contract strategy and risk allocation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in contract strategy and risk allocation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning contract strategy and risk allocation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for contract strategy and risk allocation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on contract strategy and risk allocation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about contract strategy and risk allocation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in contract strategy and risk allocation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Certificate in Energy Negotiation and Stakeholder Practice: Evidence and Decision Gates

Learning objectives

- Explain certificate in energy negotiation and stakeholder practice: evidence and decision gates, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Energy Negotiation and Stakeholder Practice: Evidence and Decision Gates
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Negotiation and Stakeholder Practice

Teaching notes

Teaching notes

Core explanation. Certificate in Energy Negotiation and Stakeholder Practice: Evidence and Decision Gates describes a practical part of Certificate in Energy Negotiation and Stakeholder Practice. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in energy negotiation and stakeholder practice: evidence and decision gates. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in energy negotiation and stakeholder practice: evidence and decision gates while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in energy negotiation and stakeholder practice: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in energy negotiation and stakeholder practice: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in energy negotiation and stakeholder practice: evidence and decision gates?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in energy negotiation and stakeholder practice: evidence and decision gates?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in energy negotiation and stakeholder practice: evidence and decision gates be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in energy negotiation and stakeholder practice: evidence and decision gates?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in energy negotiation and stakeholder practice: evidence and decision gates?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in energy negotiation and stakeholder practice: evidence and decision gates?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in energy negotiation and stakeholder practice: evidence and decision gates. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in energy negotiation and stakeholder practice: evidence and decision gates contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in energy negotiation and stakeholder practice: evidence and decision gates?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in energy negotiation and stakeholder practice: evidence and decision gates?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Local content and national value

Learning objectives

- Explain local content and national value, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Local content and national value
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Negotiation and Stakeholder Practice

Teaching notes

Teaching notes

Core explanation. Local content can include employment, skills, supplier participation and durable industrial capability. Distinguish domestic ownership, local expenditure and actual value retained locally. A purchase from a locally registered importer may contain little domestic production.

Decision logic. Measure outcomes with a defined boundary, baseline and evidence. Avoid assuming a proposed policy target is current law. Supplier development must protect quality and safety while building realistic capacity and fair access.

Worked example. A fictional USD 1 million local invoice contains USD 850,000 imported equipment and USD 150,000 local services.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Calculate the local-service share and propose more meaningful indicators.

Model answer guide. Fifteen percent in this simplified boundary; employment, skills and retained value need separate evidence.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Calculate the local-service share and propose more meaningful indicators.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of local content and national value?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about local content and national value?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about local content and national value be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating local content and national value?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in local content and national value?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning local content and national value?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for local content and national value. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on local content and national value contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about local content and national value?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in local content and national value?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Dispute prevention and resolution

Learning objectives

- Explain dispute prevention and resolution, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Dispute prevention and resolution
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Negotiation and Stakeholder Practice

Teaching notes

Teaching notes

Core explanation. Disputes often begin with ambiguity, undocumented change or inconsistent expectations. Teach contemporaneous records, issue escalation and contractual notice awareness. Separate technical disagreement from entitlement and relationship management.

Decision logic. Map negotiation, mediation, expert determination, arbitration or litigation only as options governed by actual agreements and law. Protect privileged or sensitive information and obtain legal advice where needed. Never invent notice periods or enforceability claims.

Worked example. A contractor requests extra payment for changed access conditions but the instructions and impact records are incomplete.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Assemble an issue chronology and identify evidence gaps.

Model answer guide. Separate established facts, disputed facts, contract questions and commercial options.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Assemble an issue chronology and identify evidence gaps.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of dispute prevention and resolution?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about dispute prevention and resolution?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about dispute prevention and resolution be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating dispute prevention and resolution?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in dispute prevention and resolution?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning dispute prevention and resolution?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for dispute prevention and resolution. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on dispute prevention and resolution contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about dispute prevention and resolution?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in dispute prevention and resolution?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Certificate in Energy Negotiation and Stakeholder Practice: Applied Case

Learning objectives

- Explain certificate in energy negotiation and stakeholder practice: applied case, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Energy Negotiation and Stakeholder Practice: Applied Case
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Negotiation and Stakeholder Practice

Teaching notes

Teaching notes

Core explanation. Certificate in Energy Negotiation and Stakeholder Practice: Applied Case describes a practical part of Certificate in Energy Negotiation and Stakeholder Practice. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in energy negotiation and stakeholder practice: applied case. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in energy negotiation and stakeholder practice: applied case while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in energy negotiation and stakeholder practice: applied case: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in energy negotiation and stakeholder practice: applied case: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in energy negotiation and stakeholder practice: applied case?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in energy negotiation and stakeholder practice: applied case?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in energy negotiation and stakeholder practice: applied case be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in energy negotiation and stakeholder practice: applied case?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in energy negotiation and stakeholder practice: applied case?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in energy negotiation and stakeholder practice: applied case?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in energy negotiation and stakeholder practice: applied case. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in energy negotiation and stakeholder practice: applied case contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in energy negotiation and stakeholder practice: applied case?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in energy negotiation and stakeholder practice: applied case?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Petroleum policy and institutional governance

Learning objectives

- Explain petroleum policy and institutional governance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Petroleum policy and institutional governance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Negotiation and Stakeholder Practice

Teaching notes

Teaching notes

Core explanation. Policy sets objectives, institutions assign authority, and governance creates accountability for decisions and resources. Explain government, regulator and state enterprise roles conceptually without asserting an unverified current Namibian structure.

Decision logic. Separate commercial participation from regulatory judgement and manage conflicts transparently. Define decision rights, disclosure, assurance and challenge. A strong governance design includes implementation capacity and an audit trail, not just an organisation chart.

Worked example. A fictional institution both promotes investment and evaluates its own project compliance, creating a conflict to manage.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Draft a responsibility matrix and conflict-management controls.

Model answer guide. Identify segregated decisions, independent review, declarations and public accountability where applicable.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Draft a responsibility matrix and conflict-management controls.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of petroleum policy and institutional governance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about petroleum policy and institutional governance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about petroleum policy and institutional governance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating petroleum policy and institutional governance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in petroleum policy and institutional governance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning petroleum policy and institutional governance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for petroleum policy and institutional governance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on petroleum policy and institutional governance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about petroleum policy and institutional governance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in petroleum policy and institutional governance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Certificate in Energy Negotiation and Stakeholder Practice: Knowledge Check

Learning objectives

- Explain certificate in energy negotiation and stakeholder practice: knowledge check, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Energy Negotiation and Stakeholder Practice: Knowledge Check
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Negotiation and Stakeholder Practice

Teaching notes

Teaching notes

Core explanation. Certificate in Energy Negotiation and Stakeholder Practice: Knowledge Check describes a practical part of Certificate in Energy Negotiation and Stakeholder Practice. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in energy negotiation and stakeholder practice: knowledge check. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in energy negotiation and stakeholder practice: knowledge check while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in energy negotiation and stakeholder practice: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in energy negotiation and stakeholder practice: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in energy negotiation and stakeholder practice: knowledge check?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in energy negotiation and stakeholder practice: knowledge check?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in energy negotiation and stakeholder practice: knowledge check be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in energy negotiation and stakeholder practice: knowledge check?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in energy negotiation and stakeholder practice: knowledge check?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in energy negotiation and stakeholder practice: knowledge check?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in energy negotiation and stakeholder practice: knowledge check. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in energy negotiation and stakeholder practice: knowledge check contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in energy negotiation and stakeholder practice: knowledge check?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in energy negotiation and stakeholder practice: knowledge check?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Energy Negotiation and Stakeholder Practice: Competence Review

Learning objectives

- Explain certificate in energy negotiation and stakeholder practice: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Energy Negotiation and Stakeholder Practice: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Energy Negotiation and Stakeholder Practice

Teaching notes

Teaching notes

Core explanation. Certificate in Energy Negotiation and Stakeholder Practice: Competence Review describes a practical part of Certificate in Energy Negotiation and Stakeholder Practice. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in energy negotiation and stakeholder practice: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in energy negotiation and stakeholder practice: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in energy negotiation and stakeholder practice: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in energy negotiation and stakeholder practice: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in energy negotiation and stakeholder practice: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in energy negotiation and stakeholder practice: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in energy negotiation and stakeholder practice: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in energy negotiation and stakeholder practice: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in energy negotiation and stakeholder practice: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in energy negotiation and stakeholder practice: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in energy negotiation and stakeholder practice: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in energy negotiation and stakeholder practice: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in energy negotiation and stakeholder practice: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in energy negotiation and stakeholder practice: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

C-X27 | Certificate in Carbon Management for Oil and Gas

Level: C | Duration: 8-16 weeks | Audience: Graduates, technicians and professionals

8-16 weeks C programme focused on Certificate in Carbon Management for Oil and Gas, using energy-sector cases and applied decisions.

Learning outcomes

- Explain core principles and terminology for Certificate in Carbon Management for Oil and Gas.
- Interpret an applied case using evidence and stated assumptions.
- Identify risks, safeguards, role boundaries and escalation points.
- Prepare a clear recommendation for a multidisciplinary audience.

Module 1: Certificate in Carbon Management for Oil and Gas: Core Concepts

Learning objectives

- Explain certificate in carbon management for oil and gas: core concepts, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Carbon Management for Oil and Gas: Core Concepts
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Carbon Management for Oil and Gas

Teaching notes

Teaching notes

Core explanation. Certificate in Carbon Management for Oil and Gas: Core Concepts describes a practical part of Certificate in Carbon Management for Oil and Gas. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in carbon management for oil and gas: core concepts. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in carbon management for oil and gas: core concepts while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in carbon management for oil and gas: core concepts: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in carbon management for oil and gas: core concepts: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in carbon management for oil and gas: core concepts?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in carbon management for oil and gas: core concepts?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in carbon management for oil and gas: core concepts be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in carbon management for oil and gas: core concepts?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in carbon management for oil and gas: core concepts?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in carbon management for oil and gas: core concepts?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in carbon management for oil and gas: core concepts. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in carbon management for oil and gas: core concepts contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in carbon management for oil and gas: core concepts?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in carbon management for oil and gas: core concepts?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 2: Certificate in Carbon Management for Oil and Gas: Risk Controls

Learning objectives

- Explain certificate in carbon management for oil and gas: risk controls, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Carbon Management for Oil and Gas: Risk Controls
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Carbon Management for Oil and Gas

Teaching notes

Teaching notes

Core explanation. Certificate in Carbon Management for Oil and Gas: Risk Controls describes a practical part of Certificate in Carbon Management for Oil and Gas. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in carbon management for oil and gas: risk controls. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in carbon management for oil and gas: risk controls while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in carbon management for oil and gas: risk controls: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in carbon management for oil and gas: risk controls: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in carbon management for oil and gas: risk controls?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in carbon management for oil and gas: risk controls?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in carbon management for oil and gas: risk controls be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in carbon management for oil and gas: risk controls?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in carbon management for oil and gas: risk controls?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in carbon management for oil and gas: risk controls?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in carbon management for oil and gas: risk controls. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in carbon management for oil and gas: risk controls contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in carbon management for oil and gas: risk controls?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in carbon management for oil and gas: risk controls?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 3: Certificate in Carbon Management for Oil and Gas: Systems and Interfaces

Learning objectives

- Explain certificate in carbon management for oil and gas: systems and interfaces, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Carbon Management for Oil and Gas: Systems and Interfaces
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Carbon Management for Oil and Gas

Teaching notes

Teaching notes

Core explanation. Certificate in Carbon Management for Oil and Gas: Systems and Interfaces describes a practical part of Certificate in Carbon Management for Oil and Gas. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in carbon management for oil and gas: systems and interfaces. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in carbon management for oil and gas: systems and interfaces while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in carbon management for oil and gas: systems and interfaces: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in carbon management for oil and gas: systems and interfaces: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in carbon management for oil and gas: systems and interfaces?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in carbon management for oil and gas: systems and interfaces?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in carbon management for oil and gas: systems and interfaces be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in carbon management for oil and gas: systems and interfaces?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in carbon management for oil and gas: systems and interfaces?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in carbon management for oil and gas: systems and interfaces?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in carbon management for oil and gas: systems and interfaces. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in carbon management for oil and gas: systems and interfaces contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in carbon management for oil and gas: systems and interfaces?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in carbon management for oil and gas: systems and interfaces?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 4: Certificate in Carbon Management for Oil and Gas: Evidence and Decision Gates

Learning objectives

- Explain certificate in carbon management for oil and gas: evidence and decision gates, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Carbon Management for Oil and Gas: Evidence and Decision Gates
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Carbon Management for Oil and Gas

Teaching notes

Teaching notes

Core explanation. Certificate in Carbon Management for Oil and Gas: Evidence and Decision Gates describes a practical part of Certificate in Carbon Management for Oil and Gas. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in carbon management for oil and gas: evidence and decision gates. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in carbon management for oil and gas: evidence and decision gates while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in carbon management for oil and gas: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in carbon management for oil and gas: evidence and decision gates: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in carbon management for oil and gas: evidence and decision gates?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in carbon management for oil and gas: evidence and decision gates?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in carbon management for oil and gas: evidence and decision gates be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in carbon management for oil and gas: evidence and decision gates?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in carbon management for oil and gas: evidence and decision gates?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in carbon management for oil and gas: evidence and decision gates?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in carbon management for oil and gas: evidence and decision gates. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in carbon management for oil and gas: evidence and decision gates contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in carbon management for oil and gas: evidence and decision gates?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in carbon management for oil and gas: evidence and decision gates?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 5: Marine monitoring and evidence quality

Learning objectives

- Explain marine monitoring and evidence quality, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Marine monitoring and evidence quality
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Carbon Management for Oil and Gas

Teaching notes

Teaching notes

Core explanation. Monitoring tests defined questions using repeatable sampling, measurement and analysis. Explain baseline, reference locations, quality control and detection limits. A changing measurement does not establish its cause automatically.

Decision logic. Specify indicators, frequency, methods, responsibilities and action thresholds through competent review. Maintain chain of custody and calibration records. Interpret trends alongside natural variability and other activities. Avoid using unsupported universal compliance limits.

Worked example. A sample result rises after a storm at both project and reference locations.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Interpret the result and propose a proportionate follow-up.

Model answer guide. Consider regional variability, method quality and exposure pathways before attributing causation.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Interpret the result and propose a proportionate follow-up.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of marine monitoring and evidence quality?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about marine monitoring and evidence quality?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about marine monitoring and evidence quality be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating marine monitoring and evidence quality?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in marine monitoring and evidence quality?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning marine monitoring and evidence quality?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for marine monitoring and evidence quality. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on marine monitoring and evidence quality contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about marine monitoring and evidence quality?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in marine monitoring and evidence quality?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 6: Certificate in Carbon Management for Oil and Gas: Data and Performance

Learning objectives

- Explain certificate in carbon management for oil and gas: data and performance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Carbon Management for Oil and Gas: Data and Performance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Carbon Management for Oil and Gas

Teaching notes

Teaching notes

Core explanation. Certificate in Carbon Management for Oil and Gas: Data and Performance describes a practical part of Certificate in Carbon Management for Oil and Gas. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in carbon management for oil and gas: data and performance. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in carbon management for oil and gas: data and performance while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in carbon management for oil and gas: data and performance: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in carbon management for oil and gas: data and performance: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in carbon management for oil and gas: data and performance?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in carbon management for oil and gas: data and performance?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in carbon management for oil and gas: data and performance be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in carbon management for oil and gas: data and performance?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in carbon management for oil and gas: data and performance?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in carbon management for oil and gas: data and performance?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in carbon management for oil and gas: data and performance. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in carbon management for oil and gas: data and performance contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in carbon management for oil and gas: data and performance?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in carbon management for oil and gas: data and performance?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 7: Certificate in Carbon Management for Oil and Gas: Applied Case

Learning objectives

- Explain certificate in carbon management for oil and gas: applied case, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Carbon Management for Oil and Gas: Applied Case
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Carbon Management for Oil and Gas

Teaching notes

Teaching notes

Core explanation. Certificate in Carbon Management for Oil and Gas: Applied Case describes a practical part of Certificate in Carbon Management for Oil and Gas. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in carbon management for oil and gas: applied case. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in carbon management for oil and gas: applied case while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in carbon management for oil and gas: applied case: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in carbon management for oil and gas: applied case: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in carbon management for oil and gas: applied case?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in carbon management for oil and gas: applied case?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in carbon management for oil and gas: applied case be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in carbon management for oil and gas: applied case?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in carbon management for oil and gas: applied case?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in carbon management for oil and gas: applied case?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in carbon management for oil and gas: applied case. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in carbon management for oil and gas: applied case contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in carbon management for oil and gas: applied case?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in carbon management for oil and gas: applied case?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 8: Certificate in Carbon Management for Oil and Gas: Communication and Escalation

Learning objectives

- Explain certificate in carbon management for oil and gas: communication and escalation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Carbon Management for Oil and Gas: Communication and Escalation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Carbon Management for Oil and Gas

Teaching notes

Teaching notes

Core explanation. Certificate in Carbon Management for Oil and Gas: Communication and Escalation describes a practical part of Certificate in Carbon Management for Oil and Gas. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in carbon management for oil and gas: communication and escalation. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in carbon management for oil and gas: communication and escalation while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in carbon management for oil and gas: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in carbon management for oil and gas: communication and escalation: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in carbon management for oil and gas: communication and escalation?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in carbon management for oil and gas: communication and escalation?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in carbon management for oil and gas: communication and escalation be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in carbon management for oil and gas: communication and escalation?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in carbon management for oil and gas: communication and escalation?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in carbon management for oil and gas: communication and escalation?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in carbon management for oil and gas: communication and escalation. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in carbon management for oil and gas: communication and escalation contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in carbon management for oil and gas: communication and escalation?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in carbon management for oil and gas: communication and escalation?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 9: Certificate in Carbon Management for Oil and Gas: Knowledge Check

Learning objectives

- Explain certificate in carbon management for oil and gas: knowledge check, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Carbon Management for Oil and Gas: Knowledge Check
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Carbon Management for Oil and Gas

Teaching notes

Teaching notes

Core explanation. Certificate in Carbon Management for Oil and Gas: Knowledge Check describes a practical part of Certificate in Carbon Management for Oil and Gas. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in carbon management for oil and gas: knowledge check. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in carbon management for oil and gas: knowledge check while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in carbon management for oil and gas: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in carbon management for oil and gas: knowledge check: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in carbon management for oil and gas: knowledge check?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in carbon management for oil and gas: knowledge check?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in carbon management for oil and gas: knowledge check be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in carbon management for oil and gas: knowledge check?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in carbon management for oil and gas: knowledge check?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in carbon management for oil and gas: knowledge check?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in carbon management for oil and gas: knowledge check. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in carbon management for oil and gas: knowledge check contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in carbon management for oil and gas: knowledge check?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in carbon management for oil and gas: knowledge check?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

Module 10: Certificate in Carbon Management for Oil and Gas: Competence Review

Learning objectives

- Explain certificate in carbon management for oil and gas: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Certificate in Carbon Management for Oil and Gas: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Certificate in Carbon Management for Oil and Gas

Teaching notes

Teaching notes

Core explanation. Certificate in Carbon Management for Oil and Gas: Competence Review describes a practical part of Certificate in Carbon Management for Oil and Gas. Learners connect the principles to asset performance, people, operational risk, project value and local context.

Decision logic. Review the objective, evidence, limits, interfaces and applicable controls for certificate in carbon management for oil and gas: competence review. Decisions require current information, role-appropriate authority, competent review and documented assumptions.

Worked example. Use an applied Namibia-relevant case in which a team plans certificate in carbon management for oil and gas: competence review while balancing safety, integrity, schedule, cost, environmental protection and local capability.

Facilitator prompts. Ask learners to distinguish verified facts from assumptions, identify who has decision authority, name stop-work triggers and state what evidence could change their recommendation. Compare technical, HSE, commercial and community perspectives.

Activity. Prepare a decision brief for certificate in carbon management for oil and gas: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Model answer guide. A sound response defines scope; uses current, traceable evidence; applies approved requirements and controls; records assumptions; assigns competent owners; checks interfaces; and communicates a measurable decision with an escalation path.

Assessment evidence. Score accuracy (30%), use of evidence (20%), safeguards (20%), analysis (20%) and communication (10%).

Activity

Prepare a decision brief for certificate in carbon management for oil and gas: competence review: scope, evidence, assumptions, hazards, safeguards, owner, decision gate and escalation trigger.

Assessment

Formative: 10-question practice quiz with answer feedback

Summative: Applied decision brief or practical case assessed against the rubric; proposed pass mark 70%, subject to academic approval.

Practice questions

1. What is the main purpose of certificate in carbon management for oil and gas: competence review?

A. To support a safe, evidence-based decision within the defined operating context.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

2. What should be established before a decision about certificate in carbon management for oil and gas: competence review?

A. Scope, applicable requirements, evidence, assumptions and decision authority.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

3. How should a material uncertainty about certificate in carbon management for oil and gas: competence review be handled?

A. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

4. Which evidence is most useful for evaluating certificate in carbon management for oil and gas: competence review?

A. Current, traceable, fit-for-purpose evidence reviewed by competent people.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

5. Which action best controls risk in certificate in carbon management for oil and gas: competence review?

A. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

6. Why should interfaces be checked when planning certificate in carbon management for oil and gas: competence review?

A. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

7. A proposed shortcut bypasses an approved safeguard for certificate in carbon management for oil and gas: competence review. What is the best response?

A. Do not bypass it; stop and use the formal review and approval route.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

8. What should a strong case exercise on certificate in carbon management for oil and gas: competence review contain?

A. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

9. How should the team communicate a decision about certificate in carbon management for oil and gas: competence review?

A. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

10. What demonstrates competence in certificate in carbon management for oil and gas: competence review?

A. A reasoned, documented decision that is accurate, controlled, within authority and open to review.

B. Proceed using an unverified assumption and omit the record.

C. Transfer the decision to an unqualified person.

D. Ignore interfaces and continue without checking safeguards.

Answer key

1. To support a safe, evidence-based decision within the defined operating context. | 2. Scope, applicable requirements, evidence, assumptions and decision authority. | 3. Record it, identify the evidence or competent review needed, and use the approved hold point when necessary. | 4. Current, traceable, fit-for-purpose evidence reviewed by competent people. | 5. Use approved controls, verify safeguards, and stop or escalate when limits are exceeded. | 6. Interactions between disciplines, equipment, schedules and stakeholders can create hazards or invalidate assumptions. | 7. Do not bypass it; stop and use the formal review and approval route. | 8. An objective, evidence, assumptions, hazards, stakeholders, decision gates, owners and review criteria. | 9. State the decision, evidence, assumptions, controls, owner, limits and escalation trigger. | 10. A reasoned, documented decision that is accurate, controlled, within authority and open to review.