Professional Certificate in Subsea Field Development and Offshore Project D

GExperts Learning Academy | PC-035 | PC | 18 weeks

Course overview

18 weeks PC programme focused on Professional Certificate in Subsea Field Development and Offshore Project Delivery, using energy-sector cases and applied decisions.

Designed for: Learners appropriate to the stated programme level

Learning outcomes

- Explain core principles and terminology for Professional Certificate in Subsea Field Development and Offshore Project Delivery.
- 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.

Course guide

Work through each module objective, lesson and teaching note, complete the applied activity and assessment, then use the separate Academy practice page for practice questions and answer feedback.

Separate practice questions:
https://www.globalexpertsconsultoria.com/training/academy/courses/questions/?course=PC-035

Academic and certification status

Draft learning resource for study and review. It does not confer accreditation, external certification, a regulated qualification, professional licence, safety-critical competence or site authorisation. Confirm approvals, current laws, standards, approved procedures and awarding-body requirements before delivery.

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: Professional Certificate in Subsea Field Development and Offshore Project Delivery

Detailed 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%).

Applied 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

Use the separate Academy practice questions and answer key page for this module.

Module 2: 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: Professional Certificate in Subsea Field Development and Offshore Project Delivery

Detailed 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%).

Applied 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

Use the separate Academy practice questions and answer key page for this module.

Module 3: 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: Professional Certificate in Subsea Field Development and Offshore Project Delivery

Detailed 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%).

Applied 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

Use the separate Academy practice questions and answer key page for this module.

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: Professional Certificate in Subsea Field Development and Offshore Project Delivery

Detailed 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%).

Applied 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

Use the separate Academy practice questions and answer key page for this module.

Module 5: 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: Professional Certificate in Subsea Field Development and Offshore Project Delivery

Detailed 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%).

Applied 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

Use the separate Academy practice questions and answer key page for this module.

Module 6: Professional Certificate in Subsea Field Development and Offshore

Learning objectives

- Explain professional certificate in subsea field development and offshore project delivery: data and performance, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Professional Certificate in Subsea Field Development and Offshore Project Delivery: Data and Performance
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Professional Certificate in Subsea Field Development and Offshore Project Delivery

Detailed teaching notes

Teaching notes

Core explanation. Professional Certificate in Subsea Field Development and Offshore Project Delivery: Data and Performance describes a practical part of Professional Certificate in Subsea Field Development and Offshore Project Delivery. 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 professional certificate in subsea field development and offshore project delivery: 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 professional certificate in subsea field development and offshore project delivery: 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 professional certificate in subsea field development and offshore project delivery: 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%).

Applied activity

Prepare a decision brief for professional certificate in subsea field development and offshore project delivery: 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

Use the separate Academy practice questions and answer key page for this module.

Module 7: Professional Certificate in Subsea Field Development and Offshore

Learning objectives

- Explain professional certificate in subsea field development and offshore project delivery: applied case, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Professional Certificate in Subsea Field Development and Offshore Project Delivery: Applied Case
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Professional Certificate in Subsea Field Development and Offshore Project Delivery

Detailed teaching notes

Teaching notes

Core explanation. Professional Certificate in Subsea Field Development and Offshore Project Delivery: Applied Case describes a practical part of Professional Certificate in Subsea Field Development and Offshore Project Delivery. 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 professional certificate in subsea field development and offshore project delivery: 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 professional certificate in subsea field development and offshore project delivery: 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 professional certificate in subsea field development and offshore project delivery: 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%).

Applied activity

Prepare a decision brief for professional certificate in subsea field development and offshore project delivery: 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

Use the separate Academy practice questions and answer key page for this module.

Module 8: Professional Certificate in Subsea Field Development and Offshore

Learning objectives

- Explain professional certificate in subsea field development and offshore project delivery: communication and escalation, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Professional Certificate in Subsea Field Development and Offshore Project Delivery: Communication and Escalation
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Professional Certificate in Subsea Field Development and Offshore Project Delivery

Detailed teaching notes

Teaching notes

Core explanation. Professional Certificate in Subsea Field Development and Offshore Project Delivery: Communication and Escalation describes a practical part of Professional Certificate in Subsea Field Development and Offshore Project Delivery. 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 professional certificate in subsea field development and offshore project delivery: 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 professional certificate in subsea field development and offshore project delivery: 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 professional certificate in subsea field development and offshore project delivery: 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%).

Applied activity

Prepare a decision brief for professional certificate in subsea field development and offshore project delivery: 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

Use the separate Academy practice questions and answer key page for this module.

Module 9: Professional Certificate in Subsea Field Development and Offshore

Learning objectives

- Explain professional certificate in subsea field development and offshore project delivery: knowledge check, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Professional Certificate in Subsea Field Development and Offshore Project Delivery: Knowledge Check
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Professional Certificate in Subsea Field Development and Offshore Project Delivery

Detailed teaching notes

Teaching notes

Core explanation. Professional Certificate in Subsea Field Development and Offshore Project Delivery: Knowledge Check describes a practical part of Professional Certificate in Subsea Field Development and Offshore Project Delivery. 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 professional certificate in subsea field development and offshore project delivery: 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 professional certificate in subsea field development and offshore project delivery: 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 professional certificate in subsea field development and offshore project delivery: 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%).

Applied activity

Prepare a decision brief for professional certificate in subsea field development and offshore project delivery: 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

Use the separate Academy practice questions and answer key page for this module.

Module 10: Professional Certificate in Subsea Field Development and Offsho

Learning objectives

- Explain professional certificate in subsea field development and offshore project delivery: competence review, interpret a case, select appropriate controls and justify a documented decision.

Lessons

1. Purpose and key terms of Professional Certificate in Subsea Field Development and Offshore Project Delivery: Competence Review
2. Systems and operating context
3. Evidence, assumptions and decision gates
4. Hazards, safeguards and escalation
5. Applied case: Professional Certificate in Subsea Field Development and Offshore Project Delivery

Detailed teaching notes

Teaching notes

Core explanation. Professional Certificate in Subsea Field Development and Offshore Project Delivery: Competence Review describes a practical part of Professional Certificate in Subsea Field Development and Offshore Project Delivery. 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 professional certificate in subsea field development and offshore project delivery: 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 professional certificate in subsea field development and offshore project delivery: 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 professional certificate in subsea field development and offshore project delivery: 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%).

Applied activity

Prepare a decision brief for professional certificate in subsea field development and offshore project delivery: 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

Use the separate Academy practice questions and answer key page for this module.

Facilitator close-out and resources

Facilitator close-out

Record attendance, assessment evidence, learner support needs, incidents and improvement actions according to approved provider processes. Do not sign learners off for regulated or safety-critical work without the authorised assessment and certification route.

Resources and references

- Supplied GExperts/IUM reference materials; verify reuse rights and currentness.
- Current applicable Namibian legislation, standards and approved site procedures supplied by the provider.
- Case worksheet and instructor slides must be produced and reviewed before course release.