Certificate in Petroleum Economics, Finance and Commercial Management

GExperts Learning Academy | C-026 | C | 12 weeks

Course overview

12 weeks C programme focused on Certificate in Petroleum Economics, Finance and Commercial Management, using energy-sector cases and applied decisions.

Designed for: Learners appropriate to the stated programme level

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.

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=C-026

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: 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

Detailed 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%).

Applied 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

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

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

Detailed 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%).

Applied 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

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

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

Detailed 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%).

Applied 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

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

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

Detailed 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%).

Applied 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

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

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

Detailed 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%).

Applied 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

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

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

Detailed 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%).

Applied 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

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

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

Detailed 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%).

Applied 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

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

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

Detailed 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%).

Applied 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

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

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

Detailed 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%).

Applied 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

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

Module 10: Certificate in Petroleum Economics, Finance and Commercial Ma

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

Detailed 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%).

Applied 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

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.