Project Economics, Risk & Decision Analysis for Oil & Gas

2027 □□□□□□ 11 – 7
Cairo (Egypt)



Project Economics, Risk & Decision Analysis for Oil & Gas

Ref: 20222748_211797 Duration: Cairo (Egypt) Fees: 4900 GBP

Why This Course

Oil and gas projects require major investment decisions, long-term financial planning, and careful risk assessment. In such capital-intensive environments, project success depends on the ability to evaluate economic feasibility, understand uncertainty, compare investment alternatives, and present clear recommendations supported by data.

This comprehensive 1-week course provides a practical approach to project economics, risk analysis, and decision-making in the oil and gas industry. Participants will learn how to build economic models, analyze cash flows, apply investment indicators, assess uncertainty, and use advanced risk techniques to support better project selection and portfolio decisions.

The program combines petroleum economics concepts with spreadsheet-based exercises, case studies, and applied decision tools to help participants make stronger investment decisions under uncertainty.

What You'll Learn and Practice

By joining this program, you will:

- Develop cash flow models for oil and gas projects.
- Apply economic indicators such as NPV, IRR, payback period, and profitability index.
- Evaluate project viability using structured financial and economic analysis.
- Conduct sensitivity analysis and interpret tornado diagrams.
- Apply probability concepts, expected value, and decision tree analysis.
- Use Monte Carlo simulation techniques for advanced risk assessment.
- Compare project alternatives using multi-criteria decision analysis.
- Build integrated economic and risk analysis cases for investment decisions.

The Program Flow

Day 1: Fundamentals of Project Economics

- Introduction to petroleum economics and project evaluation.
- Time value of money concepts and financial discounting.
- Cash flow modeling basics for oil and gas projects.
- Revenue, cost, capital expenditure, and operating expenditure assumptions.
- Depreciation methods and tax considerations.
- Practical exercise: building a basic project cash flow model.



Day 2: Economic Indicators and Project Evaluation

- Net Present Value and Internal Rate of Return.
- Payback period and profitability index.
- Project ranking and screening techniques.
- Incremental analysis for project decisions.
- Comparing mutually exclusive and independent projects.
- Workshop: evaluating project feasibility using economic indicators.

Day 3: Risk Analysis and Uncertainty

- Types of risks in oil and gas projects.
- Sensitivity analysis and key value drivers.
- Tornado diagrams for risk visualization.
- Probability concepts and expected value.
- Decision tree analysis for investment choices.
- Case study: assessing uncertainty in project economics.

Day 4: Advanced Risk Assessment

- Monte Carlo simulation techniques and applications.
- Constructing probability distributions for uncertain variables.
- Interpreting simulation outputs and risk profiles.
- Value of information analysis.
- Using spreadsheet tools for advanced risk modeling.
- Practical exercise: running a simulation-based project risk assessment.

Day 5: Decision Analysis and Portfolio Management

- Multi-criteria decision analysis for project selection.
- Real options in oil and gas project evaluation.
- Portfolio optimization techniques and capital allocation.
- Integrating economic analysis with risk assessment.
- Presenting economic results and recommendations to management.
- Final case study: integrated project economics and risk analysis.

Individual Impact

- Strengthen your ability to build economic models for oil and gas projects.
- Improve confidence in using Excel for project evaluation and risk analysis.
- Enhance skills in interpreting NPV, IRR, payback, and risk-adjusted results.
- Build stronger decision-making capability under uncertainty.
- Improve ability to present financial and economic findings clearly to management.



Work Impact

- Improve investment evaluation and project selection quality.
- Support stronger capital allocation and portfolio management decisions.
- Reduce uncertainty through structured risk analysis and simulation.
- Enhance the quality of economic reports and management recommendations.
- Strengthen data-driven decision-making across oil and gas projects.

Training Methodology

This course uses an applied and case-based learning approach focused on practical project evaluation. Training methods include:

- Interactive discussions on petroleum economics and investment decision-making.
- Spreadsheet-based cash flow modeling exercises.
- Economic indicator calculations and project ranking workshops.
- Risk analysis cases using sensitivity analysis and decision trees.
- Monte Carlo simulation exercises and interpretation sessions.
- Integrated oil and gas project case studies and presentation activities.

Beyond the Course

By the end of this course, participants will be able to evaluate oil and gas projects with greater accuracy, structure, and confidence. They will be equipped to build economic models, assess project risks, apply investment criteria, compare alternatives, and present data-driven recommendations that support better strategic and financial decisions.

