

PETROLEUM PROJECT ECONOMICS & RISK ANALYSIS

FIN004

COURSE DESCRIPTION

Exploration and Production (E&P) companies often must evaluate their potential E&P investment using proper present value analysis of expected future cashflows. From the projected cashflows and required investments, the annual rate of return and other project economic indicators can be extracted to evaluate the significance of company investment.

This course covers three important topics. First, currently used techniques of the economic analysis in the Oil & Gas industry. When executing a petroleum related project, one should be able to choose the best alternative from economic point of view as well as to properly evaluate various investment opportunities by determining economic indicators and sensitivity analysis. Second, Techniques for predicting profit, production, costs, and cashflow enable the analyst to evaluate decision alternatives for optimum results. And finally, economic indicators, risk and uncertainty, different economic structures such as tax regimes and production sharing contracts, enhances the quality and the value of economic analysis.

COURSE GOAL

To enhance the participants' knowledge, skills, and ability to assess investments based on alignment with policies, strategy, affordability, acceptable returns, and prioritization of options.

COURSE OBJECTIVES

By the end of this course, participant will be able to:

- Understand various economic terms used in the Oil & Gas industry.
- Understand how to develop economic models of various petroleum fiscal regimes.
- Carry out cashflow analysis, different economic analyses for petroleum related project and determine economic indicators.
- Evaluate and quantify risks and uncertainties.
- Make the right investment decision in the presence of risk.
- Carry out a comprehensive economic evaluation study for any petroleum related project including risk analysis and sensitivity study using spreadsheet.
- Contribute to the petroleum project investment within a solid economic system and do a detailed economic evaluation.
- Contribute to the decision-making process for any petroleum related project.

WHO CAN BENEFIT

- Oil & Gas Field Engineers
- Oil & Gas Managers
- Oil & Gas Auditors
- Oil & Gas Planners
- Financial Analysts
- Project Management Professionals

COURSE DURATION

5 Working Days

COURSE OUTLINES

1. Cashflow Analysis

- Familiarization with Economic terms
- Setting up Cashflow Calculation
- Depreciation Methods
- Loss Carry Forwards
- Inflation
- Nominal & Real Cashflow
- Sunk Costs
- Project Financing

2. Economic Indicators

- Economic Indicators Definitions
- Present Value Concept
- Discount Factor
- Net Present Value
- Internal Rate of Return
- Effect of Project Delay
- Payback Period
- Profit / Investment Ratio
- Incremental Projects
- Risks and Uncertainties

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3. Risk & Uncertainty

- Expected Value Concept
- Decision Tree Analysis
- Farm-out Decision
- Probability Analysis
- Sensitivity Analysis
- Probability Distribution
- Monte Carlo Simulation

4. Setting up Spreadsheet Calculation

- Introduction to Spreadsheet Calculation
- Simple Cashflow using Excel
- NPV Calculations
- Application of Economic Indicators
- Class Discussion

5. Setting up Oil Field Development Model

- Group Activities
- Setting up an Integrated Economic Model of a Typical Oil Field Development
- Project Sensitivity Analysis for the Selected Model

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