MERCURY

Petroleum Risk & Decision Analysis Course

4 – 8 July 2027
Istanbul (Turkey)



Dubai - UAE: +971 4 450 5697
Istanbul - Türkiye: +90 539 599 1206
Amman - Jordan: +962 79 712 3347

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Ref: 15234_303379 **Date:** 4 – 8 July 2027 **Location:** Istanbul (Turkey) **Fees:** 5500 Euro

Introduction:

The petroleum industry is renowned for being among the most significant and strategically important sectors. It demands substantial capital investment and inherently encompasses considerable risks. Notably, global spending on exploration and production surged to $644 billion in 2013, a 7% increase from $604 billion in the preceding year.

In 2014, exploration budgets climbed even further to reach $654 billion, but a downward trend ensued, with spending dropping to $521 billion in 2015, followed by another 27% decrement in 2016. This year, global exploration and production expenditures ascended by 7%.

The upstream sector's profit margins are under considerable strain due to various factors, including the escalating costs associated with developing new reserves, diminished oil and gas yield per foot of exploration drilling, rising inflation rates, a global surplus in supply, and pervasive price volatility.

Intense competition for investments, exploration rights/acreage/concessions, the advancing age of current reservoirs, and the surge of the unconventional oil and gas revolution are formidable catalysts for heightened business risk and uncertainty. Projects within the petroleum industry are intrinsically prone to risk.

Nonetheless, the key challenge lies in the systematic evaluation, management, and proactive mitigation of this risk. The chief difficulties faced at the initial stages of capital project planning are predicting costs, assessing potential profitability, and undertaking oil and gas risk management.

Failing to estimate these critical components accurately can result in substantial financial losses. The course emphasizes the importance of petroleum risk and decision analysis to provide professionals with the methods and tools to handle petroleum risks effectively.

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Targeted Groups:

- Planning Managers.
- Oil and Gas Engineers.
- Project Managers.
- Analysts.
- Commercial Managers.
- Economists.
- Government Officials.
- Geologists.
- Business Advisors.
- Asset Managers.
- E&P Managers.
- Product Managers.
- Project Management Professionals.

Course Objectives:

By the conclusion of this petroleum risk and decision analysis course, participants will be:

- Equipped to delineate the elements of the decision analysis process and adept at structuring a project cash flow model that integrates sensitivity analysis.
- Proficient in the evaluation of investment and design alternatives using decision tree analysis.
- Skilled in the practical Application of operational decision-making techniques using @Risk software.
- Knowledgeable in pinpointing crucial uncertainties within petroleum projects.
- Enhanced their awareness of the most influential parameters governing oil and gas field development projects.

Targeted Competencies:

After this petroleum risk and decision analysis training, participants' competencies will:

- Develop Economics.
- Understand Uncertainty in Investments.
- Oil and Gas Risk Analysis.
- Construction of Spreadsheet Calculations Using Excel.
- Practical Application of the @Risk add-on for Oil Field Development Model.

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Course Content:

Unit 1: Development Economics:

- A Brief History of Energy Usage.
- Fundamental Principles of Development Economics.
- Comprehension of Economic Terms.
- Inflation and its Impact on Nominal and Real Cash Flows.
- Various Aspects of Project Financing.

Unit 2: Uncertainty in Investments:

- Handle Uncertainty in Capital Projects.
- Grasp Probability Concepts.
- Features and Pitfalls of the Expected Value Concept.
- Expected Monetary Value EMV.
- Expected Profitability Index EPI.
- Expected Opportunity Loss EOL.

Unit 3: Risks and Uncertainties:

- Discern Risk and Uncertainty.
- Risk Aversion and Risk Premium.
- Explore Project Threats and Opportunities.
- Criteria for Economic Decision-Making.
- Decision Tree Analysis.
- Probability Distribution.
- Monte Carlo Simulation.

Unit 4: Setting up Spreadsheet Calculations Using Excel:

- Spreadsheet Calculations.
- Cash Flow Analysis.
- Sensitivity Analysis Calculations.
- Construct Tornado Diagrams.
- Introductory Learning to Monte Carlo Simulations using @Risk.
- Developing an Oil Field Project.

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Unit 5: Practical Use of the @Risk add-on: Oil Field Development Model:

- Create an Integrated Economic Model of an Oil Field Development.
- Develop and Use the @Risk Model Analysis.
- Perform Project Sensitivity Analysis with Data from the @Risk Model.
- Consolidative Training Seminar Review and Conclusion.

Conclusion:

This petroleum risk and decision analysis course covers aspects of petroleum risk management. It ensures that participants will leave with a comprehensive understanding of oil and gas risk, petroleum risk analysis, and how to apply this knowledge to benefit their organizations in oil and gas risk management.