



Course Code

44-412117-6

## Petroleum Industry Uncertainty and Risk Management and Decision Making (RMD)

### Course Overview

Good technical and business decisions are based on competent analysis of project costs, benefits and risks. Participants learn the decision analysis process and foundation concepts so they can actively participate in multidisciplinary evaluation teams focusing on designing and solving decision models.

Probability distributions express, in terms of curves, professional judgments about risks and uncertainties. In addition, Decision Tree and influence diagrams provide clear communications and the basis for valuing each project's alternative (outcome).

Monte Carlo simulation is discussed and practiced in detail through field cases and emphasis is on practical techniques for immediate application. This course is intended as the prerequisite for the Advanced Decision Analysis/Portfolio and Project Modeling course.

### Who should attend?

This programme is appropriate for project managers, senior project engineers, senior technical specialists, business planning coordinators and economists.

### Topics covered

- Describe the elements of the decision analysis process and the respective roles of management and the analysis team
- Express and interpret judgments about risks and uncertainties as probability distributions and popular statistics
- Represent discrete risk events in Venn diagrams, probability trees, and joint probability tables
- Solve for expected values with Decision Trees, payoff tables, and Monte Carlo simulation (hand calculations)
- Craft and solve decision models
- Evaluate investment and design alternatives with Decision Tree Analysis
- Develop and solve decision trees for value of information (VOI) problems
- Produce a written personal development plan for the transfer and application of learning and development from the programme

**Duration : 3 Days (24 hours in total, assuming an 8-hour day)**

