informatech



OIL AND GAS | OG-013

# Integrated Risk & Uncertainty Analysis for Capital Projects in Oil & Gas


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# Course content

## Why Attend

Capital projects in oil & gas involve large investments, long execution horizons, and multiple layers of technical, commercial, and operational uncertainty. Without an integrated approach, risks are often managed in isolation, leading to incomplete visibility and suboptimal decisions.

This course provides a structured, end-to-end approach to identifying, quantifying, and integrating risk and uncertainty across the full project lifecycle. Participants will learn how to connect cost, schedule, technical, and operational risks into a unified decision-support framework.

## Course Methodology

The program is highly practical and application-focused:

- Real oil & gas capital project case studies
- Interactive workshops and group exercises
- Scenario-based risk modeling discussions
- Step-by-step guided frameworks for integration
- Practical tools and templates for project use

## Course Objectives

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

- Apply integrated risk management across capital project phases
- Identify and link multiple sources of project uncertainty
- Quantify and evaluate combined cost, schedule, and performance risks
- Develop risk-integrated project decision frameworks
- Improve capital allocation and investment decisions
- Strengthen governance and reporting of project risks



# Course content

## Target Audience

This course is suitable for:

- Project Managers and Project Engineers
- Capital Project and Construction Managers
- Risk and Planning Professionals
- Cost Engineers and Project Controls Specialists
- Investment and Portfolio Decision-Makers
- Oil & Gas Technical and Operational Leaders

## Target Competencies

Participants will develop competencies in:

- Integrated risk and uncertainty analysis
- Quantitative and qualitative risk assessment
- Project cost and schedule risk integration
- Scenario and sensitivity analysis
- Risk-based decision-making for capital projects
- Strategic communication of project risk

## Course outline

### Day 1: Fundamentals of Risk in Capital Projects

- Overview of capital project lifecycle in oil & gas
- Types of risks: technical, financial, operational, and external
- Understanding uncertainty vs. variability in projects
- Risk management frameworks and standards



# Course content

## Course outline

• Building a structured risk breakdown structure (RBS)

• Qualitative risk identification and prioritization

### Day 2: Quantitative Risk Assessment Techniques

• Introduction to quantitative risk analysis

• Probability concepts and uncertainty modeling

• Cost and schedule risk analysis fundamentals

• Sensitivity analysis and key risk drivers

• Introduction to simulation-based risk modeling concepts

• Interpreting quantitative risk outputs for decision support

### Day 3: Integration of Cost, Schedule & Technical Risks

• Linking cost, schedule, and technical uncertainty

• Dependency and correlation between risks

• Integrated risk modeling approaches

• Scenario analysis for capital projects

• Stress testing project assumptions

• Workshop: building an integrated risk model

### Day 4: Risk-Based Decision Making in Capital Projects

• Decision analysis under uncertainty

• Evaluation of project alternatives using risk-adjusted metrics

• Investment decision frameworks (CAPEX prioritization)

• Risk appetite and tolerance in capital allocation

• Value of information and decision improvement



# Course content

## Course outline

• Case study: capital project approval decision

**Day 5: Embedding Integrated Risk into Project Governance**

• Integrating risk into project controls and governance

• Risk reporting for senior management and boards

• Communicating uncertainty effectively

• Lessons learned from major oil & gas projects

• Best practices in integrated risk management

• Final group case study and presentations



# Seminar dates

## Available seminar dates

Live dates and pricing for Integrated Risk & Uncertainty Analysis for Capital Projects in Oil & Gas generated from the course details page.

| Date | Location | Format | Fee |
|---|---|---|---|
| 9 - 13 November 2026 | Barcelona - Spain | Classroom | **€3,400.-** |
| 16 - 20 November 2026 | Kuala lumpur - Malaysia | Classroom | **€2,280.-** |
| 7 - 11 December 2026 | London - U.K | Classroom | **€3,080.-** |
| 14 - 18 December 2026 | Barcelona - Spain | Classroom | **€3,400.-** |
| 21 - 25 December 2026 | Vienna - Austria | Classroom | **€3,360.-** |
| 18 - 22 January 2027 | Amsterdam - Netherlands | Classroom | **€3,400.-** |
| 15 - 19 February 2027 | Munich - Germany | Classroom | **€3,400.-** |
| 15 - 19 March 2027 | Cape Town - South Africa | Classroom | **€2,272.-** |
| 19 - 23 April 2027 | Barcelona - Spain | Classroom | **€3,080.-** |
| 17 - 21 May 2027 | Munich - Germany | Classroom | **€3,400.-** |
| 21 - 25 June 2027 | Kuala lumpur - Malaysia | Classroom | **€1,800.-** |
| 19 - 23 July 2027 | Amsterdam - Netherlands | Classroom | **€3,400.-** |
| 16 - 20 August 2027 | London - U.K | Classroom | **€3,360.-** |
| 20 - 24 September 2027 | Paris - France | Classroom | **€3,600.-** |
| 18 - 22 October 2027 | London - U.K | Classroom | **€3,360.-** |
| 15 - 19 November 2027 | Amsterdam - Netherlands | Classroom | **€3,400.-** |
| 20 - 24 December 2027 | London - U.K | Classroom | **€3,360.-** |