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## N401: Multi-Disciplinary Skills for Field Development Planning and Approval

Instructor(s): Pete Smith

### Format and Duration

Classroom - 4 Days

Virtual - 8 Sessions

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## Summary

**Business Impact:** This course presents in detail the technical and commercial influences on Field Development Planning within the global oil and gas industry. It demonstrates the need for understanding field development choices on resource size, facility choices, size and cost. By defining a set of key learning objectives, the course is tailored to those wishing to deepen their understanding of Field Development Planning's purpose within the oil and gas industry.

## Learning Outcomes

Participants will learn to:

1. Understand the purpose of Field Development Planning.
2. Appreciate how risk and uncertainty impacts field development planning decisions.
3. Understand all aspects that appertain to Field Development Planning, including resource size, resource location, reservoir production support mechanism, and cost.
4. Assess the impact of field development choices on facility selection, sizing, and costing.
5. Build a holistic view of the commercial worth of Field Developments.
6. Develop a set of key tools to make optimum decisions based upon available information and uncertainties
7. Understand how a field development project is managed through keystone gates.
8. Manage Field Development cost, schedule, and operability through-out field life.

## Training Method

This is a classroom or virtual classroom course comprising a mixture of lectures, discussion, case studies, and practical exercises.

## Who Should Attend

The course is designed for reservoir/petroleum/production/facility/drilling engineers, geoscientists, team leaders and managers.

## Course Content

### 1. Introduction

- Heuristics Quiz
- Introduction
- Business Framework
- Risk and Uncertainty



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### 2. Estimating Resources

- Fluids and PVT data
- Reservoir Mechanisms
- Secondary and Tertiary Recovery
- Resource Uncertainty

### 3. Estimating Costs

- Field Development Definition
- Well Productivity
- Oil/Water and Gas Profiles
- Secondary Recovery
- Additional Production Issues
- Facility Selection
- Development Costs

### 4. Estimating Value

- Transportation Costs
- Gas fields and Gas Value chain
- Commercial Evaluation & Fiscal regulations
- Field Development Examples:
  - I. Onshore
  - II. UKCS
  - III. Atlantic Margin - deep-water
  - IV. Norway
  - V. Gulf of Mexico – shelf and deep-water

### 5. Framing Choices

- Probability Estimation
- Value of Information (Appraisal)
- Value of Information (Intervention)
- Bayesian Revision
- Project Uncertainty

### 6. A Compelling Case

- Reservoir Dynamic Modelling
- Production forecasting
- Field Development Project Planning



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- Surveillance
- Presenting the project