Petroleum E&P Economics and Risk & Decision Analysis (Modules 1 and 2)
Module 1
Petroleum Exploration & Production Economics

Production Sharing Contract (PSC)

- Oil & Gas Revenue
  - Less Royalty & Cost (OPEX & Qualifying CAPEX)
    - (Subject to Recovery Ceiling)
  - Oil & Gas Profit
    - Less Tax Oil
      - Host Gov. Share of Profit
      - Oil Company Share of Profit

...What is total Gov. take?
Petroleum Exploration & Production Economics
Module 1

Course Description:

Field development has always been a tricky endeavour where the delicate balancing of technical know-how and commercial imperative is required.

The bottom line has always been the design that ensures full exploitation of the field production potential and doing so at acceptable costs.

This program is essential for the development of such skills required to achieve this delicate balance.
Course Contents:

1. Oil & Gas Contract Types & Fiscal Policy

2. Reservoir Volume Estimation Methods
   - Volumetric, Material Balance and Decline Curves Suitability of Method to Reservoir Type/Production History

3. Economic Analysis
   - Economic Yardsticks and Quantitative Measures
   - Economics Decision Tools
   - Economic Analysis Applied to E & P Operations
   - Petroleum Oil & Gas Project Economics

4. Key Field Development Considerations
   - Efficient monitoring of reservoir performance
   - Reduction of Unnecessary Wells Drilling
   - Wellbore and surface systems
   - Well testing and automated production systems
   - Economic impact of operating plans
   - Identifying and acquiring critical data, data acquisition, and analysis

5. Risk Analysis
   - Valuation of Petroleum Reserves
   - NPV of Reservoir Asset
   - Taxation And Cash Flow Analysis
   - Decision Tree Analysis
6. Field Development Options / Considerations & Economics

- Basic Concepts in Field Development (including Reservoir Characterization, Phase Behaviour & Drive Mechanism)
- Optimum Decision Making in Field Development
- Optimum utilization of wells (including new wells or not, well placing and spacing requirements, in-fill wells etc.)
- Well / Field Intervention (including optimum completion, stimulation and identification of production strategy)
- Pressure & Pressure Maintenance Operation (PMO) and Economic Considerations
- Economics of Surface Facilities
- Production Optimization & Economics (including well lift, gas lift, Bean/choke system and overall systems performance)

Tuition:
£2,950 + VAT
Module 2
Petroleum Risk & Decision Analysis

Background

The course employs deterministic and probabilistic risk techniques based on the fiscal terms (regimes) of exploration and production contracts and Petroleum Economics principles of upstream petroleum operations through a variety of lectures and workshop exercises to determine the level of risks in both exploration & production.

Course Content

1. Quantification of uncertainty and risk in exploration, reserves, costs and economic evaluation.
2. Exploration Risk Analysis Using Decision Tree Technique for Economic Monetary Value (EMV) Estimation.
3. The application of risk in the evaluation of exploration prospects
4. Key Field Development Considerations:
   a. Efficient monitoring of reservoir performance
   b. Reduction of Unnecessary Wells Drilling
   c. Wellbore and surface systems
   d. Well testing and automated production systems
   e. Economic impact of operating plans
   f. Identifying and acquiring critical data, data acquisition, and analysis
5. Develop knowledge of upstream petroleum economic discounted cash flow evaluation methodologies
6. Become familiar with the derivation, calculation and application of economic metrics such as NPV & IRR, (discounted cashflow) Payback & ROCE.
7. Incremental and project consolidation analysis
8. Understand government and oil company perspectives
9. Understand the financial structure and mechanisms of production sharing contracts including the calculation of cost recovery and profit oil splits
10. Construct production sharing contract and tax & royalty concession spreadsheet models (Excel-Based Models)
11. Identify key risks and uncertainties for your projects
12. Make better recommendations and improve the quality of your decision making.
Who Should Attend?

Petroleum engineers and Geoscientists, Finance and Accounting staff, Legal department staff, Contract management staff, Managers, and Supervisors, Planning staff.
Nominees from all technical and commercial disciplines whose functions include or are wishing to become familiar with the theories and practical know-how for using taught techniques in the valuation oil and gas prospects, discoveries and fields intended for development. e.g.

Venue:
Venue and Date, open to discussion /change upon interest and commitment of 8 or more persons.

Tuition:
£3,250 +VAT

Module 1 & 2 : £6200 + VAT