

# Certified Courses



# Fundamentals of Exploration & Production

## INTRODUCTION

- The impact of fossil fuels on our modern world and our ever increasing dependence on it has resulted in an endless quest for its exploration and production. The easy to find oil is now a phenomenon of the past and is therefore necessary to traverse the planet both off shore and to greater depths, to secure supplies.
- This highly interesting Fundamentals of Exploration & Production training seminar examines the multi-disciplinary nature of petroleum exploration, technology and production operations in the upstream oil and gas business.

### This training seminar will feature:

- Develop an appreciation and understanding of the origins of oil and gas and identify the basics of geology in relation to oil and gas reservoirs
- Understand the exploration activities from project inception through to implementation and production i.e. the field life cycle
- Appreciate the evolving nature of the Oil and Gas industry and its many facets and identify and manage key stakeholder's expectations
- Understand the fundamentals of drilling, well completions and production operations and examine the basics of primary and enhanced recovery operations
- Recognize and learn the terminology as applied to the Oil and Gas industry and appreciate the difference between exploration, appraisal and development wells

## OBJECTIVES

- Recognize and understand basic geology and its relation to the formation and exploration of petroleum
- Appreciate and understand the key drivers involved in the exploration process
- Identify the stakeholders in the energy supply chain
- Explore the global oil and gas industry to date and understand different type of oil companies
- Understand the various fiscal and production sharing agreements involved and the challenges and opportunities they present

## TRAINING METHODOLOGY

- This Fundamentals of Exploration & Production training seminar is a participatory learning experience that is both hands-on and interactive and provides the delegates many opportunities to advance their opinions and ideas. The instructor will facilitate a supportive environment ensuring that the concepts introduced during the training seminar are well understood and comprehended.

This training course will utilise a variety of proven adult learning techniques to ensure maximum understanding, comprehension and retention of the information presented. This includes:

- PowerPoint presentations and Lectures
- Specific points will be reinforced by short videos to relate the material to the real world
- Daily progress will be enhanced by seminar exercises
- The seminar will be augmented with case studies
- The participants will be encouraged to participate in highly interactive discussions to advance their opinion and ideas

## WHO SHOULD ATTEND?

This training seminar is suitable to a wide range of professionals but will greatly benefit:

- New Engineers
- Non-Technical Professionals
- Technical Support Professionals
- Non-Technical Investors and Businessmen
- Accounting and Purchasing Professionals
- Economics, Legal and Finance and Human Resources Professionals
- Management and Administrative Professionals interested in obtaining a general understanding of the upstream petroleum industry

## Course Outline

### Introduction - Oil Production Life Cycle

- History of Oil and Gas
- The Role of Oil and Gas in Society
- International Oil & Gas Supply
- Global Reserves, Production & Trade
- The Nature and Formation of Fossil Fuels and Oil Reserves

## Petroleum Geology

- Basic Petroleum Geology - Where we find fossil fuels?
- Geological Time
- Rock Types & Sedimentary Basins
- Exploration Activities
- Geophysical Methods: Gravity and Magnetic Surveying
- 2D, 3D and 4D Seismic

## Understand Different Functions Related to Oil Operations

- Reservoir Description & Type of Wells
- Drilling Operations and Engineering
- Reservoir Fluids and Produced Water
- Oil Water Separation
- Field Appraisal & Volumetric Estimation
- Well Stimulation and Completion

## Reservoir and Well Dynamic Behavior

- Reservoir Drive Mechanisms
- Recovery and Production Estimation
- Secondary and Enhanced Oil Recovery
- Unconventional Petroleum Deposits
- Tight Oil, Shale Oil and Shale Gas Tar Sands
- Hydraulic Fracturing

## Geopolitics, Fiscal Regimes, IOC's and NOC's

- Ownership of Hydrocarbons - Concessions, Contracts and Joint Ventures
  - World Energy Supply and Demand - Oil and Gas Pricing
  - International and National Oil Companies, OPEC, IEA and the Future
  - Peak Oil
  - Carbon Capture
  - Safety and the Environment
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