

# € TRAINING

Hydrocarbon Production Operations MBA





# Hydrocarbon Production Operations MBA

## Introduction:

This program will provide the participants with an integrated view of the hydrocarbon production and related facilities during the life of the reservoir. It will present an overview/fundamental understanding of the wide range of oilfield production handling and treatment equipment. With this view and tools and knowledge on the properties and flow of the fluids provided in this training session, the participant will be able to understand the behavior of the fluids from the reservoir up to end-users. The training gives a strong emphasis on the calculation of reserves, fluids properties from the reservoir through a gathering network. This knowledge is necessary for the surface facility engineer to design or operate the equipment and facilities

## Course Objectives:

At the end of this course the participants will be able to:

- Explore global oil & gas related statistics, such as reserves, production, consumption, and exports
- Learn about both upstream, middle stream, and downstream operations and related facilities
- Learn about various methods and techniques used to explore, drill, produce, treat and transport oil, gas, and their products
- Understand the oil & gas operations of various field facilities from the wellhead, flow lines, separators, tanks, pumps and compressors, pipelines, gas treatment and processing, refinery operations, etc
- Understand the basic concept with regards to evaluating oil & gas reserves, artificial lift, and enhancing recovery
- Understand the challenge associated with this industry such as offshore operations, horizontal drilling, and other safety concerns
- Get a general feel for petroleum economics and risk analysis

## Targeted Audience:

- Technologists
- Mechanical engineers
- Safety and Inspection engineers
- Operations, Maintenance or project engineers
- Anyone requiring a broad understanding of the structure, operations, and economics of the oil and gas industries

## Course Outlines:

### Unit 1: Introduction and Overview:

- Global Energy Statistics
- Hydrocarbon Industry Components
- The Upstream Operations
- Exploration Methods
- Seismic Surveys
- Drilling Operation
- Drilling Problems & Challenges

- Well Testing, Completion
- Hydrocarbon Production Problems
- Well Stimulation & Maintenance

## Unit 2: Hydrocarbon Properties:

- Rock Properties
- Porosity & Permeability
- Estimating Hydrocarbon Reserves
- Oil & Gas Production
- Artificial Lift Methods & Facilities
- Reservoir Drive Mechanisms
- Pressure Maintenance Technology
- Hydrocarbon Recovery Methods
- Primary, Secondary & Tertiary Recovery
- Reservoir Simulation
- Oil & Gas Field Surface Facilities

## Unit 3: Downstream Operations:

- Wellheads Types
- Production Manifolds
- GOSP Facilities
- Oil & Gas Separation
- Emulsion Treatment
- Separator types, Operation & Troubleshooting
- Oil Treatment, Storage & Transportation
- Oil Tank Types
- Gas Treatment & Processing
- Process Troubleshooting

## Unit 4: Heat Exchangers:

- Oil & Gas Measurement and Control
- Pipeline Operation & Pigging
- Valve Types
- Pumps & Compressor Stations
- Refinery Operations & Products
- Operation Troubleshooting

## Unit 5: The Role of Technology:

- Safety & Accident Prevention
- Production Problems
- Corrosion Protection & Cathodic Protection
- Scale Prevention & Treatment
- Petroleum Economics & Risk Analysis