

## **(2) Petroleum Production and Operation Engineering**

### **WHO SHOULD ATTEND**

- Engineers (well completion engineer, production engineers, reservoir engineer and field engineer), and well-site geologist, and other staffs from an operating and/or service and/or consultant and/or engineering company involved in petroleum production operation process.
- Engineers and technical personnel involving with appraisal or field development project, and/or reservoir management team intending to enhance their technical skills and level of confidence in decision making by identifying well problems issues, causes of production anomalies; various operational constraints etc.
- Front line engineers from an operating and/or service and/or consultant and/or engineering company requires improving their technical skills with high level of confidence to adapt appropriate technology to optimize the production performance and better reservoir management.
- Surface facility engineers from an operating and/or service and/or consultant and/or engineering company getting necessary knowledge to design or operate the equipments and facilities.
- Technical, project and commercial managers, staff responsible in the production development, evaluation and field operation for oil and gas facilities operation
- Sales and marketing professionals, Suppliers or customers wishing to gain an understanding of Oil & Gas

### **COURSE OBJECTIVES**

- Evaluate the flow capacity of a well and design and properly select well completion mechanical equipment
- Understand why and how formations can be damaged and how to reduce the risk of damage, and increase the well productivity
- Understand the causes, and apply best approach to manage sand production
- Understand how to manage water production problems; and select appropriate methods to attempt for down-hole water shut off operation
- Familiar with proven technologies to deal with many production, work-over and well intervention operations
- An integrated view of the oil and gas production and related facilities during the life of the reservoir
- Gain an improved knowledge about various aspects of the oil & gas production operations. These include production of gas and oil, and surface processing units and operations such as artificial Lift and pressure maintenance operations.
- Gain an overall knowledge of various hydrocarbon production processes from the time a reservoir is discovered to end users

- Understand the role of the petroleum/reservoir engineer in optimizing recovery
- Gain sufficient knowledge of various surface and sub-surface equipments and processing facilities used in a typical oil & gas field
- Gain sufficient knowledge about health, safety and environmental issues.

### **CONTENT**

- Oil and Gas Operation Facilities
  - Surface Processing Units
  - Surface Processing Operations
  - Artificial Lift and Pressure Maintenance Operations
  - Issues Related to Mid-stream, Down-stream and Up-stream
  - Oil treating and processing facilities
  - Water treating and processing facilities
  - Gas treating and processing facilities
- Introduction Overview and Petroleum Production Systems Basic Concepts
- An Overview of Well Problems and Problem Solving
- An overview and understanding of various types of Production Logging
- An under overview and various types of surface and down-hole Test Equipment
- An overview and understanding of various work-over operation tools
- Down-hole water production, control and management
- Sand Control
- Oil and Gas Production Problems
  - Well Problems and Identification
  - Formation Damage
  - Well Work-over Operations
  - Hydraulic Fracturing
  - Sand Management
  - Produced Water Control
  - Oil Production and the Environment

### **INTENDED FOR**

The aim of the course is to provide with necessary knowledge in well problem diagnosis and remedial, work-over operations, well stimulation, sand and water control that helps formulate engineering solution of petroleum field production operation related problems. It will provide you with an integrated view of the oil and gas production and related facilities during the life of the reservoir and presents 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 course, you are able to understand the behaviour of the fluids from the reservoir up to end users.