



THE CHEMICAL ENGINEERING MAJOR

Foundation Production Operations

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Foundation Production Operations

Introduction:

This course represents the core of production engineering programs and is the foundation for all future studies in this subject. The candidates will become familiar with the procedures and techniques that increase production and cut operating costs. The course provides a fundamental and integrated understanding of wells, their design, operation and treatments. The objective of this course is to give an introduction to common process equipment, instrumentation and operations related to a typical oil & gas production process.

Who Should Attend?

Petroleum engineers, Production engineers, Reservoir engineers, Facility engineers, Drilling and research engineers, Geologists, Field supervisors and managers, Service company engineers and managers.

Course Objectives:

By the end of this course delegates will be able to:

- Plan and implement well completions, workovers, stimulation treatments, and routine production operations with an efficiency that increases profits
- Evaluate the flow capacity of a well
- Achieve reliable zonal isolation by efficient primary cementing
- Devise an integrated plan for efficient well completion and treatments
- Select and plan an appropriate perforating operation using underbalanced or extreme overbalance procedures
- Ascertain why formations are damaged and how to prevent or correct such damage
- Find out which stimulation is best and how to perform these jobs
- Review your current practices to improve well productivity
- Apply proven technologies and recent innovations in production operations.

Course Outline:

- The Reservoir
- Wellhead
- Flowline
- Header
- Separators

- Glycol Dehydration System
- Gas & Oil Sales Lines
- Stage Separation
- Storage Tanks
- Transfer Pump
- Produced Water
- Well Testing
- Secondary Recovery
- Gas Production and Flowline Heaters
- Gas Production, etc.
- Oil Separation / Oil Export
- Gas Recompression
- Gas Compression, Export and Reinjection
- Produced Water Treatment
- Fuel Gas
- Cooling Medium
- Seawater System / Water Injection
- Steam System
- Power Generation and Distribution
- Process Operation at normal production
- Abnormal Operations and Troubleshooting
- Geological considerations
- Reservoir fundamentals
- Well testing
- Inflow
- Primary cementing
- Well Completions
- Outflow

- Workover fluids
- Perforating
- Completion equipment: tubing, packers, flow control devices
- Production logging
- Squeeze cementing
- Workovers
- Formation damage
- Surfactants
- Paraffin and asphaltene
- Rock mechanics
- Hydraulic fracturing
- Sand control
- Acidizing
- Corrosion control
- Scale deposition, removal, and prevention