



THE CHEMICAL ENGINEERING MAJOR

Gas Pipeline Operations

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Gas Pipeline Operations

Introduction:

This course will provide participants with the necessary knowledge to demonstrate the principles of pipeline operation and maintenance in a mechanical and technological environment.

This course has been designed to provide participants with a basic understanding of maintenance procedures, as well as the related operations of pipelines and their associated equipment.

Who Should Attend?

- Pipeline Operation
- Maintenance Engineer
- Facilities Engineer
- Facilities Operators

Objectives:

- Pipelines - system
- Pipeline project life cycle & planning
- Pipeline Construction
- Hydrotesting
- Hot Tapping and Stopple

- Pigging
- Block valves & black valve station facilities
- Corrosion Overview
- Operation, Inspection and Maintenance
- Pipeline Integrity Management
- Risk Based Inspection
- Fitness for Service Assessment

Course Outline:

Day 1

- The need for pipelines
- Engineering required before designing an onshore pipeline
- Pipelines - system
- Pipelines - terminology
- Pipeline project life cycle & planning
- Review of pipeline systems
 - Pipelines codes, standards and national regulations
 - Pipeline components
 - Pipeline engineering

- Pipeline design factors
- Pipeline design

Day 2

- Pipeline Construction
- Pump Station Safeguards
- General Material Requirements
- Sour Service Requirements
- Hydrotesting
- Pipeline repairs

Day 3

- Hot Tapping and Stopple
- Pigging
 - The uses of pigs - general
 - Pipeline pigging system (pigs, services, components
 - Pipeline design factors
 - Type of pigs: use and operation

- Smart pig types

Day 4

- Block valves & block valve station facilities
 - Overview
 - Block valves
 - Hydro Test Pipeline the First Non-Routine Activity
 - Routine Operational /Maintenance Activities
- Corrosion Overview
 - Fundamental of Corrosion
 - Factors Influencing Oilfield Corrosion
 - CO₂ and H₂S corrosion
 - Corrosion inhibitor guidelines
 - External corrosion
 - Cathodic protection

Day 5

- Operation, Inspection and Maintenance
 - Monitoring and Inspection of Coatings
 - Determining the effectiveness of corrosion control
 - Pipelines Safety Record
- Pipeline Integrity Management
- Risk Based Inspection
- Fitness for Service Assessment