

Oil Production and Processing Facilities

Professional training programme



SPARK TRAINING

Professional training courses for leaders, specialists, and organizations seeking practical capability development.

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— Workshop Overview

This comprehensive 5-day training course concentrates on oil & gas production and subsequent treatment surface facility operations and processes. The training course covers the entire oil & gas value chain from discovery, exploration and transportation through to refining and finally sales to downstream industries. An overview and fundamental understanding of the wide range of oilfield production handling and treatment equipment will be presented as well as new technologies. This course emphasises oil and gas production facilities both onshore and offshore - from the wellhead to delivery of an on-specification crude oil to the refinery or natural gas to downstream users. Produced water treating facilities are introduced and discussed and includes coverage of water injection systems. In addition to the engineering aspects of oil production facilities, practical operating problems will also be covered, including treatment of emulsions, handling of sand, dealing with wax and asphaltenes, natural gas dehydration and sweetening and refinery processing.

Why Attend

This course uses instructor-led sessions, guided discussion, and practical exercises built around Day one: Introduction of Oil & Gas Production Life Cycle, Day two: Functions Related to Oil & Gas Operations, Day three: Chemical Reaction Processes, and day four: common process being used in gas plant industries.

Who Should Attend

Chemical, Mechanical engineers and Process Technologists,
Facility and Inspection engineers
Maintenance or project engineers
Operations and Laboratory Chemists
Technicians, support engineers and engineering trainees

— Learning Objectives

- Learn the origins and chemical characteristics of Oil & Gas
- Understand the challenges associated with offshore operations, horizontal drilling and other safety concerns
- Familiarize the participants with various methods and techniques used to explore, drill, produce, treat and transport Oil, Gas and their products
- Introduce the participants to upstream, mid-stream and downstream operations
- Appreciate Oil & Natural Gas treatment technologies and processes including produced water treatment
- Learn the many processes involved in crude oil refining and how these contribute to refinery complexity and profitability
- Gain valuable knowledge of Gas Sweetening and Physical Solvents Unit Troubleshooting

Course Outline

DAY 1

Day one: Introduction of Oil & Gas Production Life Cycle

- The nature and formation of fossil fuels and oil reserves
- Basic petroleum geology- Where we find fossil fuels: Onshore/ offshore
- Type of wells and Reservoir types
- Exploration activities:
- Exploration well
- Directional Drilling
- Drilling Offshore
- Well Testing & Completion
- Well Stimulation & Workover

DAY 2

Day two: Functions Related to Oil & Gas Operations

- The chemistry of fossil fuels and petroleum
- Physical properties of hydrocarbons
- Oil & Gas Gathering and separation
- On-site surface processing,
- Produced Water Generation and Management Practices
- Dew Point Control/Liquids Recovery
- Acid gas injection
- Oil Recovery Methods

DAY 3

Day three: Chemical Reaction Processes

- Types of Contaminants and General Safety Considerations
- Specifications and process selection criteria
- Hydrates, and Gas Dehydration
- Chemistry of Amine Gas Sweetening
- Alkanolamine Processes Selection and Classification
- Selection Criteria for Acid Gas Removal Systems
- Process Flow Schemes
- General Design Criteria / Guidelines
- General Operating Problems in Amine Proce

DAY
4

Day four: Common Process Being Used In Gas Plant Industries

- Physical processes:
 - Selexol, Fluor, Rectisol, Purisol
- Alkaline Salt Processes:
 - Hot Potassium Carbonate Plants – Benfield, Catacarb
- Combination Processes:
 - Sulfinol, HiPure
- Batch Processes:
 - Chemsweet, Sulfa-Check, SulfaTreat, Puraspec, Molecular Sieve
- Iron Chelate Processes:
 - LO-CAT, SulFerox
- Liquid Hydrocarbon Treating:
 - Regenerated Caustic, Perco Solid Copper Chloride, Molecular Sieve, Merox

DAY
5

Day five: Downstream Operations

- Oil & Gas Downstream Operations
- Oil Storage & Transportation
- Crude oil Treatment & Processing
- Refinery Operations & Products
- Petrochemical Industry
- Oil and Gas pricing
- Energy Types, World Energy Review & Global Statistics
- Course review and evaluation

— Upcoming Classroom Dates

DATE	LOCATION	FEE
12 - 16 October 2026	Frankfurt - Germany	€1,625
9 - 13 November 2026	Rome - Italy	€2,125
14 - 18 December 2026	Kuala Lumpur - Malaysia	€1,400
18 - 22 January 2027	Barcelona - Spain	€1,925
15 - 19 February 2027	Paris - France	€2,250
15 - 19 March 2027	Frankfurt - Germany	€1,625
19 - 23 April 2027	Barcelona - Spain	€1,925
17 - 21 May 2027	Frankfurt - Germany	€1,625

— Certificate and Registration

Participants who attend and complete the full programme receive a SPARK Training Certificate of Completion. For registration, in-house delivery, or availability questions, contact info@sparktraining.eu or +31 85 115 0004.