OIL PRODUCTION AND PROCESSING FACILITIES



GENTEX®
TRAINING CENTER

GENTEX Training Center LLC | Orlando - FL, USA
Info@gentextraining.com

Introduction

Embark on a transformative learning experience with this meticulously designed 5-day training course that delves into the fascinating world of oil and gas production and surface facility operations. This program provides participants with an in-depth understanding of the oil and gas value chain, from exploration and discovery to refining, storage, and delivery to downstream markets.

The course presents both theoretical and practical insights, combining geological, operational, and technological aspects that shape modern oil production and processing. Participants will explore petroleum geology, drilling, reservoirs, crude oil and natural gas properties, treatment processes, refining techniques, and storage infrastructure. The program also addresses industry dynamics, safety concerns, and new technologies that are transforming the sector.

By integrating real-world examples and technical expertise, the training ensures that participants develop a solid foundation and the ability to troubleshoot and optimize oilfield operations.

Oil Production and Processing Facilities Course Objectives

- Discover the origins and chemistry of oil and gas.
- Navigate the complexities of oil and gas operations and address safety challenges.
- Master exploration, production, and transportation techniques.
- Comprehend the oil and gas value chain in detail.
- Harness advanced treatment, refining, and petrochemical processes.
- Enhance troubleshooting and problem-solving skills for field operations.

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Course Methodology

This course applies interactive lectures, case studies, visual presentations, and guided discussions. Participants will also engage in group activities and scenario-based exercises to reinforce learning and ensure practical application of concepts.

Who Should Take This Course

This training program is ideal for:

- Engineers and technical professionals in oil and gas.
- Production and operations staff.
- Maintenance and field supervisors.
- Health, safety, and environment (HSE) officers.
- Professionals seeking a strong foundation in oil and gas processing.

Oil Production and Processing Facilities Course Outlines

Day 1: Fundamentals of Oil & Gas Production

- Introduction of Oil & Gas Production Life Cycle
- Formation of Oil & Gas
- Fundamentals of Petroleum Geology
- Wells and Reservoirs
- Crude Oil & Product Properties
- Drilling Operations & Well Completion
- Resources and Reserves

- Global Industry Dynamics

Day 2: Reservoir and Fluid Properties

- Core Functions in Oil & Gas Operations
- Crude Oil, Gas, and Product Properties
- Physical Properties of Hydrocarbons
- Fundamentals of Reservoir Fluid Behaviour
- Basics of Rock Properties
- Wettability and Interfacial Tension
- Recovery Mechanisms and Methods

Day 3: Gas Processing Essentials

- Gas Processing Fundamentals
- Introduction to Natural Gas
- Natural Gas Conditioning
- Contaminants and Safety
- Understanding Key Gas Types
- Critical Topics in Gas Processing
- Liquids from Gas
- Gas Conditioning Objectives

Day 4: Downstream Operations and Storage

- Oil Terminals and Storage Infrastructure
- Storage Tank Types and Design
- Tank Farm Operations and Safety

- Oil Storage, Handling, and Transportation
- Tank Terminal Design and Operations
- Refinery Processes: An Overview

Day 5: Refining and Petrochemicals

- Desalting
- Industrial Process Furnaces
- Modern Crude Distillation
- Gas Condensate Refineries
- Typical Condensate Refinery Units
- Hydrogen Production: Natural Gas Reforming
- Fuel Blending
- Octane vs Cetane Numbers
- Petrochemical Industry
- Alkanes, Alkenes, Alkynes & Aromatics
- Plastic Types

Conclusion

By successfully completing this 5-day program with Gentex Training Center, participants will gain advanced knowledge of oil production and processing facilities. They will understand the complete oil and gas value chain, from upstream exploration to downstream refining, and will be better equipped to tackle operational challenges, improve safety, and apply new technologies in their professional roles. This knowledge empowers professionals to contribute effectively to their organizations and to the global energy sector.

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FAQs

Q1 What is the "Oil Production and Processing Facilities" course about?

The Oil Production and Processing Facilities course provides a comprehensive overview of the oil and gas value chain, covering exploration, production, reservoirs, gas processing, storage, transportation, refining, and petrochemicals. It combines geological, operational, and technological concepts to develop practical understanding of modern oil and gas facilities.

Q2 What are the key benefits of the "Oil Production and Processing Facilities" course?

The course develops a broad understanding of oil and gas production and processing operations. It helps participants understand reservoir and fluid properties, gas conditioning, storage infrastructure, refining processes, and petrochemical fundamentals while strengthening troubleshooting, problem-solving, operational safety, and process optimization capabilities.

Q3 What skills will I gain from the "Oil Production and Processing Facilities" course?

Participants develop Oil & Gas Value Chain Analysis, Production Operations, Gas Processing, and Refining & Petrochemical Processes skills. These capabilities support understanding of upstream and downstream activities, hydrocarbon properties, gas conditioning, storage operations, refinery processes, and petrochemical applications across the oil and gas industry.

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Q4 What tools, methods, or standards are covered in the "Oil Production and Processing Facilities" course?

The course covers practical industry methods and technical concepts including reservoir recovery mechanisms, natural gas conditioning, oil storage and tank farm operations, modern crude distillation, desalting, industrial process furnaces, natural gas reforming, fuel blending, and analysis of octane and cetane numbers.

Q5 How is the "Oil Production and Processing Facilities" course applied in real-world practice?

The course applies its concepts to practical oil and gas operations through case studies, visual presentations, guided discussions, group activities, and scenario-based exercises. Participants use this knowledge to understand production facilities, troubleshoot operational challenges, improve safety, and support processing, storage, refining, and field operations.