MERCURY

Petroleum Laboratory Management: Mini Masters in Oil and Gas Operations

2 – 6 May 2027
Istanbul (Turkey)



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Introduction

An oil and gas production laboratory is a critical resource pivotal in overseeing and maintaining control of field operations. Managers, technicians, chemists, and other related professionals must possess a comprehensive understanding of the laboratory's capabilities and constraints. In the petroleum laboratory management of the oil and gas operations course, participants with this in-depth knowledge are able to leverage the laboratory and its staff effectively to regulate and enhance the oilfield processes.

In this petroleum laboratory management of the oil and gas operations course, equipping individuals with laboratory management skills facilitates a pathway toward achieving a laboratory management certificate or a laboratory manager certification.

This comprehensive laboratory management training course provides tailored instruction pertinent to laboratory manager training and the laboratory management course, thereby fostering proficient laboratory managers capable of navigating the multifaceted landscape of petroleum laboratories.

Through this specialized petroleum laboratory management of the oil and gas operations course, managers are prepared to partake in MBA-level laboratory management or an MBA in petroleum and oil and gas management, signifying a mastery level in laboratory management within the oil and gas sector.

Targeted Groups

- Managers.
- Technicians.
- Chemists.
- Professionals have a robust understanding of field laboratory dynamics.

Course Objectives

By the petroleum laboratory management of the oil and gas operations course conclusion, participants will be equipped to:

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- Grasp the function, significance, and workings of oil and gas laboratories.
- Optimize day-to-day management and operation of oil and gas laboratories.
- Recognize the critical role of quality management systems within a petroleum laboratory.
- Comprehend how laboratory results can bolster processing systems and secure plant and equipment integrity.
- Understand how processing chemicals operate and their strategic application.
- Learn how metering systems function and the ways in which laboratory data ensures precise metering and tanker loading custody transfer.
- Learn how to run such a laboratory efficiently.
- Manage a laboratory efficiently to generate consistent, accurate results.
- Compute appropriate chemical injection rates.

Targeted Competencies

At the end of this petroleum laboratory management of the oil and gas operations course, the target competencies will be able to evolve:

- Learn about accurate measurement and data reporting.
- Adherence to regulatory requirements.
- Understand what early detection of potential plant issues is.
- Understand the regulation and optimization of oilfield chemical injection.
- Understand preliminary analysis and classification of unknown substances or deposits.
- Learn about assurance of product quality and fiscal measurements.
- Implementation of laboratory quality management.
- Use laboratory analyses for troubleshooting and problem-solving.

Course Content

Unit 1: Role of the Laboratory Chemist in Oil and Gas Laboratories

- Quality assurance and control.
- Control of chemicals.
- Learn about health, safety, and environmental considerations.
- Compliance with legislation.

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Unit 2: Laboratory Management

- Laboratory quality management.
- Maintenance of equipment.
- Housekeeping in laboratories.
- Calibration procedures.
- Understand Inventory and stock management in the oil and gas industry.
- Effective reporting methodologies.
- Learn about chemical segregation and secure storage.

Unit 3: Sampling of Process Fluids

- Ensure representative sampling.
- Health and safety protocols.
- Understand pressurized sample collection oil and gas.
- Learn about open-air atmospheric sampling techniques.
- Water sample extraction methods.

Unit 4: Laboratory Analysis

- Assess base sediment and water content.
- Quantify water in oil using "Karl Fischer Titration."
- Measure oil in water concentrations.
- Methods of density analysis.
- Understand The gauge of "Reid" vapor pressure.
- Comprehensive produced water analysis.
- Evaluation of drinking water quality.
- Utility systems analytical procedures.
- Learn about detailed microbiological testing.

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Unit 5: Plant and Equipment

- Understand separation systems.
- Utilization of oilfield chemicals.
- Techniques of enhanced oil recovery.
- Operate and functionality of metering systems.
- Summarization of critical concepts.