

# € TRAINING

Fundamentals of Upstream Operations in the  
Oil and Gas Industry





# Fundamentals of Upstream Operations in the Oil and Gas Industry

## Introduction:

This training program provides comprehensive instruction on the foundational principles and practices involved in upstream activities within the oil and gas sector. It equips individuals with the essential skills needed to excel in upstream operations within the oil and gas industry.

## Program Objectives:

At the end of this program, participants will be able to:

- Recall the structure and lifecycle of the oil and gas industry, and understand how the industry functions from upstream, through midstream to downstream.
- Recognize how oil is formed, found, recovered/extracted, processed, transported, and sold.
- Describe terminologies and functions, including installations, production facilities, and onshore/offshore operations and support requirements.
- Explain oil and gas operations and the associated challenges, as well as the various systems monitoring and controlling equipment.
- Examine why the industry is classified as a high-risk safety-critical industry.

## Targeted Audience:

- Engineers specializing in oil and gas exploration and production.
- Technicians involved in drilling operations.
- Environmental and safety professionals in the oil and gas industry.
- Managers overseeing upstream activities.
- Government officials involved in regulating the oil and gas sector.
- Professionals seeking to enhance their understanding of upstream operations.

## Program Outlines:

### Unit 1:

## Introduction to Oil and Gas and The Industry:

- History of the industry.
- Scope of onshore operations.
- Scope of offshore operations.
- Global market outlook: energy requirements and statistics.
- Characteristics of oil and gas.
- Characteristics of rock.

## Unit 2:

### Upstream Production and Equipment:

- Production processes for onshore operations.
- Production processes for offshore operations.
- Equipment requirements and uses for onshore operations.
- Equipment requirements and uses for offshore operations.

## Unit 3:

### Risks and Upstream Exploration Activities:

- Health and safety considerations.
- Security measures.
- Quality management protocols.
- Environmental management practices.
- Risk management strategies.
- Exploration surveys and obtaining drilling rights.

## Unit 4:

### Oil and Gas Drilling:

- Types of drilling rigs: bottom-supported, floating, and land-based.
- Components and functions of drilling rigs.

- Procedures for drilling a well.
- Selection criteria for drilling rigs.
- Well abandonment and completion processes.
- Techniques for directional and horizontal drilling.

## Unit 5:

### Midstream, Downstream, and Decommissioning:

- Processing requirements for oil and gas.
- Importance of storage facilities.
- Methods of fuel transportation.
- Operations of refineries.
- Unconventional extraction methods.
- Decommissioning procedures for oil and gas facilities.