



*Training Course:
Introduction to Oil & Gas Refinery Process,
Design, and Operation*

*12 - 16 October 2026
Cape Town (South Africa)
DoubleTree by Hilton Cape Town - Upper Eastside*

Training Course: Introduction to Oil & Gas Refinery Process, Design, and Operation

Training Course code: EN236042 From: 12 - 16 October 2026 Venue: Cape Town (South Africa) - DoubleTree by Hilton Cape Town - Upper Eastside Training Course Fees: 7500 € Euro

Introduction

The oil and gas industry is a cornerstone of the global economy, and refining is the critical link between raw crude oil and valuable products such as gasoline, diesel, and petrochemicals. The "Introduction to Oil & Gas Refinery Process, Design, and Operation" course is meticulously designed by Global Horizon Training Center to provide participants with a strong foundational understanding of refinery operations, core design principles, and practical applications in real-world environments.

Whether you're new to the field or work in supporting departments like marketing, logistics, or finance, this course will bridge the knowledge gap and enhance your ability to understand the refinery value chain, terminology, and operations. The course provides a holistic overview, from crude intake to product dispatch, ensuring cross-functional understanding for technical and non-technical participants alike.

Course Objectives

By the end of this course, participants will be able to:

- Understand the structure and functions of oil & gas refineries.
- Identify key refinery processes and their interrelationships.
- Gain a basic understanding of refinery design considerations.
- Analyze how refinery operations impact business and product marketing.
- Interpret industry terminology and process flow diagrams PFDs.
- Understand the environmental, safety, and economic considerations in refining operations.
- Foster collaboration between technical and non-technical teams in oil & gas organizations.

Target Audience

This course is ideal for:

- Marketing, sales, and business development professionals in the oil & gas sector
- Junior engineers and newly hired refinery staff

- Operations and maintenance support teams
- Supply chain, logistics, and procurement professionals
- Corporate planners, finance analysts, and strategy teams
- Health, Safety, and Environment HSE professionals seeking context on operational risks

Outlines

Day 1: Overview of Oil & Gas Refining Industry

- Introduction to the oil & gas value chain
- Evolution of refining technology and global refining trends
- Types of refineries: Simple vs. Complex
- Introduction to crude oil types and properties
- Product slate: Fuels, lubricants, petrochemicals, and by-products

Day 2: Core Refinery Processes

- Atmospheric and vacuum distillation
- Thermal cracking and catalytic cracking
- Hydrocracking and hydrotreating
- Reforming and alkylation
- Desulfurization and blending operations

Day 3: Refinery Design and Equipment

- Basic principles of process design in refineries
- Process Flow Diagrams PFD and Piping and Instrumentation Diagrams P&ID
- Major equipment: Heat exchangers, furnaces, distillation towers, compressors
- Layout considerations and integration of utility systems
- Safety systems and control instrumentation

Day 4: Refinery Operation and Economics

- Feedstock selection and process optimization
- Production planning and scheduling
- Energy management in refineries
- Operational safety and environmental considerations
- Economics of refining: Cost, margin, and profitability analysis

Day 5: Refining in Business Context and Emerging Trends

- Marketing implications of refinery configurations
- Refinery's role in the supply chain and product availability
- Case study: Linking refinery operations to marketing campaigns
- Digitalization and Industry 4.0 in refining
- Sustainability, emission reduction, and the future of refining

Registration form on the Training Course: Introduction to Oil & Gas Refinery Process, Design, and Operation

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3 Oudai street, Aldouki,
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