

# Refineries and Petrochemical Industries: Core Principles

20 – 24 September 2027  
Rome (Italy)

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## Refineries and Petrochemical Industries: Core Principles

**Ref:** 321750\_145785 **Date:** 20 – 24 September 2027 **Location:** Rome (Italy) **Fees:** 5900 GBP

### Why This Course

A strong understanding of petroleum refining and petrochemical processes is essential for professionals in the energy and chemical sectors. This intensive 5-day program provides a comprehensive overview of refinery operations, process technologies, and petrochemical production. Through practical exercises, real-world examples, and industry insights, participants will gain the knowledge and skills needed to optimize operations, ensure safety, and make informed economic decisions.

### What You'll Learn and Practice

By attending this course, you will be able to:

- Understand the fundamental principles of petroleum refining and petrochemical production.
- Analyze key refinery processes and equipment for operational efficiency.
- Apply safety and environmental best practices in refinery operations.
- Evaluate economic factors affecting the refining and petrochemical industries.
- Optimize refinery operations and improve product quality.

### The Program Flow

#### Day 1: Introduction to Petroleum Refining

- Overview of the petroleum industry and global context
- Crude oil composition, properties, and quality considerations
- Refinery configurations and major processing steps
- Product specifications, quality control, and industry standards

#### Day 2: Refinery Process Units

- Atmospheric and vacuum distillation
- Conversion processes: catalytic cracking and hydrocracking
- Treating processes: hydrotreating, sweetening
- Blending and product finishing techniques

A graphic featuring a chessboard with several chess pieces (a king, a queen, and a pawn) in the foreground. In the background, there are concentric circles. The text 'UK Training' is written in a small font above the word 'PARTNER' in a large, bold, black sans-serif font.

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### **Day 3: Petrochemical Production**

- Introduction to petrochemical products and applications
- Olefin production via steam cracking
- Aromatics production processes
- Polymer manufacturing and downstream processing

### **Day 4: Refinery Operations and Safety**

- Process control, instrumentation, and automation
- Refinery utilities and offsites management
- Safety management systems and protocols
- Environmental regulations and compliance considerations

### **Day 5: Economics and Future Trends**

- Refinery economics, optimization, and cost considerations
- Market trends and demand forecasting for refined products
- Emerging technologies in refining and petrochemicals
- Sustainability initiatives and alternative fuel developments

## **Individual Impact**

Participants will leave this course with:

- Practical skills to analyze and optimize refinery operations.
- In-depth understanding of petrochemical production processes.
- Enhanced ability to make informed decisions on refinery economics.
- Knowledge of safety, environmental, and regulatory best practices.

## **Organizational Impact**

Organizations will benefit from:

- Improved operational efficiency and product quality.
- Strengthened safety and environmental compliance.
- Better-informed strategic and economic decisions.
- Enhanced technical capabilities within refinery and petrochemical teams.

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A graphic illustration of a chessboard with several chess pieces. A large gold king piece is prominent in the foreground, with a silver pawn and a silver knight nearby. The board is checkered, and there are concentric circles in the background.

## Training Methodology

- Interactive lectures and real-world industry examples
- Hands-on exercises and process simulations
- Case studies on refinery optimization and petrochemical production
- Group discussions and scenario-based problem-solving

## Beyond the Course

By the end of this 5-day program, participants will be ready to:

- Analyze complex refinery and petrochemical processes confidently.
- Apply best practices to optimize operations and product quality.
- Make strategic decisions informed by economic, safety, and environmental considerations.
- Stay ahead of industry trends and emerging technologies in refining and petrochemicals.

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A graphic illustration of a chessboard with a checkered pattern. In the foreground, there are three chess pieces: a gold king, a silver pawn, and a gold pawn. The background features a series of concentric, wavy lines radiating from behind the pieces, creating a sense of depth and movement.