

# Petroleum Refining-Production Planning, Scheduling and Yield Optimization Course

## Venue Information

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**Venue:** London UK

**Place:**

**Start Date:** 2025-07-14

**End Date:** 2025-07-18

## Course Details

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**Net Fee:** £4750.00

**Duration:** 12 Days

**Category ID:** OAGTC

**Course Code:** OAGTC-15

## Syllabus

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### Course Syllabus

#### Objectives

- Gain an appreciation of modern planning and scheduling tools that will be useful for planning of crude and product deliveries in their facilities
- Assist in improved operations, optimization, upgrading and modification of existing facilities
- Will result in improved profitability and help in continuous modernization of facilities
- Act as a primer into the industry of Petroleum Refining to maximise process fluid yields
- Familiarize industry professionals with all processes associated with the processing of petroleum into finished products
- Equip new engineers into the industry, with the basic tools for understanding the complex nature of Refining and its operations

- Refinery Configuration:
- Hydro skimming Refinery
- Refineries with Secondary Conversion Process
- Integrated Refineries
- Existing & New Refineries
- Choice of Crude
- Crude oil scheduling
- Choice of Processes
- Capacity utilization of Crudes
- Severity of Process Operations
- Cut-points Optimization
- Facing Upset Situations
- Tankage Requirement

### **Improving Product Movements and Releasing Tankages**

- Basic Information Required
- Crude Assay
- Intermediate Feed Characteristics
- Yields and Properties
- Different Process Units
- Utilities

### **Product Blending Rules**

- Product Specifications
- New Trends in fuel production
- Environmental Issues
- Crude Cost
- Product Netback

### **Formulation of Problem**

- Refinery Flow-sheets
- Simplified Material Balance
- General Formulation
- Demand Equations
- Product Inventory Control
- Product Quality Control
- Fixed Composition Blend
- Capacity Control/ Constraints
- Availability of Feedstock/ Control

### **Application to a Refinery Worksheet**

- Petroleum Product Movement and Product Exchange
- Marginal Depot Supply and movements

- vendors software
- Discussion and Summary

## **Crude Oil Yields Refinery Technology**

- Introduction
- Crude Oil Origins & Characteristics
- Crude oil Assay and properties
- Crude oil products
- Product specifications
- Gasoline
- Kerosene/ Jet Fuel
- Fuel Oil/ Diesel Fuels
- Petrochemical Feedstocks
- Refineries Complexity
- Overall refinery flow: Interrelationship of processes

## **Petroleum Refinery Processes**

- Crude Processing
- Desalting
- Atmospheric distillation
- Vacuum distillation
- Heavy Oils Processing – Coking and Thermal Processes
- Delayed Coking
- Fluid Coking
- Flexicoking
- Visbreaking
- Case study – example

## **Process for Motor Fuel Production**

- Fluid catalytic cracking
- Hydrocracking
- Cat Cracking
- Isomerization
- Alkylation
- Hydrotreating
- Catalytic Reforming
- Case study – example

## **Supporting Operations**

- Blending for Product Specifications
- Hydrogen production
- Refinery Gas Plants
- Acid Gas Treating
- Sulfur Recovery Plants

- Asphalt and Residual Fuel
- Cost Estimation
- Economic Evaluation
- Case Studies
- Group Discussions
- Program Evaluation & Summary