

€ TRAINING

Oil and Gas Technology for Non Petroleum
Professionals





Oil and Gas Technology for Non Petroleum Professionals

Introduction:

This training program offers a comprehensive program tailored for individuals outside the petroleum industry. It is designed to bridge the gap for non-technical professionals, it also equips participants with the expertise needed to thrive in various roles within the oil and gas sector.

Program Objectives:

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

- Develop an appreciation and understanding of the origins of oil and gas.
- Understand the basics of refining and petrochemicals.
- Appreciate the basic differences between exploration, and refining, and petrochemicals.
- Identify the basics of the different building blocks of petrochemicals.
- Examine the basics of different refinery types and complexity.

Targeted Audience:

- Non-technical professionals assigned to positions in refineries and petrochemical plants, corporate offices, suppliers, and other interrelated companies.
- Support Personnel including Environmental professionals, Accountants, Business managers, Administrative and legal staff, Sales and marketing personnel, Insurance representatives, Personnel managers, Financial professionals, and other professionals who desire a better understanding of the subject matter.
- Newly-hired refinery plant personnel and current semi-technical personnel who require further training.

Program Outlines:

Unit 1:

Origin and Nature of Petroleum:

- Chemistry of fossil fuels.
- Basic petroleum geology.
- Origins, formation, and trapping of oil & gas.

- Exploration and production Methods.
- Transportation.

Unit 2:

Overview of Refining:

- Classification of hydrocarbons.
- Surface processing of oil and gas.
- Refinery types and complexity.
- Hydroskimming, Cracking and Coking Refineries.
- Refining Margins and Profitability.
- Netback & Complexity Factors.

Unit 3:

Refinery Process Operations:

- Physical separation - Crude and Vacuum Distillation.
- Chemical conversion processes, Gasoline Production.
- Hydrotreating, Catalytic Reforming, Alkylation, and Isomerization.
- Residue Reduction I: Cat Cracking, Hydrocracking, Visbreaking, Hydrocracking.
- Residue Reduction II: Coking, Asphalt, and Residual Fuel.
- Blending.

Unit 4:

Petrochemicals I - Production and Uses:

- Olefin based compounds.
- Ethylene, Propylene, Butadiene, Isobutylene.
- Aromatic based compounds.
- Benzene, Toluene, Xylene.

Unit 5:

Petrochemicals II - Production and Uses:

- Natural Gas based compounds.
- Ammonia.
- Methanol.
- Gas to liquid technologies.
- Case study - Petrochemical production - Major Companies.