



The Chemical & Petrochemicals
Industry for Non-Technical Personnel



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Introduction:

This chemical and petrochemicals industry training course for non-technical personnel focuses on simplifying the complicated, technical business of Petrochemicals. It will help you understand and review elementary Carbon-based Organic Chemistry.

Fundamental Chemical structures and process chemistry necessary for understanding the Industry will be discussed. Production processes and some of the equipment used will also be covered, along with the business, value chains, and industrial production of basic, top-selling Chemicals and Petrochemicals.

The chemical and petrochemicals industry's non-technical personnel training will navigate feedstocks, such as crude oil and gas, through olefinic feedstock processing to polymer manufacturing, which produces the finished consumer product used in the end markets.

Historical and future industry direction and developments will be explored to provide real-life context, emphasizing key aspects of the oil and gas petrochemical sector. This comprehensive course delves into the multifaceted chemical and petrochemical industry and is tailored explicitly for non-technical personnel.

We aim to demystify the complex interactions and processes within the chemical oil and gas industry, providing a solid foundation for professionals such as business development personnel, procurement managers, and customer care representatives keen to enhance their understanding of this dynamic and crucial sector.

Targeted Groups:

- Sales Personnel with a Petrochemical Portfolio.
- Market Analysts.
- Chemical Plants Professionals.
- Petrochemicals and Refinery Professionals.
- Customer Care Representatives.
- Business Development Personnel.
- Procurement Managers.
- Senior Customer Care Representatives.

Course Objectives:

By the end of this chemical and petrochemicals industry for non-technical personnel course, the participants will be able to:

- Apply acquired knowledge of the primary organization for this Industry.
- Understand the wide-ranging business of Petrochemicals.
- Learn how to become familiar with the seven building blocks of Petrochemicals.
- Have a complete understanding of the rapid growth and importance of Petrochemicals.
- Explain the benefits to customers and colleagues of the Petrochemicals business.

Targeted Competencies:

At the end of this chemical and petrochemicals industry for non-technical personnel training, the target competencies will:

- Basics of Commercial Production of Petrochemicals.
- Key Market players and size.
- Economic aspects of the feedstocks and building blocks.
- A more consumer-focused view of entire Petrochemical value chains.
- Downstream associated petrochemicals markets.

Understanding the Role of Non-Technical Personnel in the Petrochemical Industry:

Gaining insight into the petrochemical oil and gas industry is critical for career progression for non-technical production personnel. This aspect of the course offers a dedicated overview of how non-technical teams contribute to the efficiency and success of chemical and petrochemical operations.

Participants in this chemical and petrochemicals industry for non-technical personnel training will explore their crucial role in liaising with technical staff, managing customer expectations, and supporting the smooth running of production processes in the oil and gas chemicals sector.

Course Content:

Unit 1: Introduction:

- Petrochemicals Gas and Petroleum.
- Basic Organic Chemistry.
- The natural gas/shale gas revolution.
- Where does Coal fit in the strategy?
- Processes and Equipment.
- Crude oil, refining, integration with Petrochemical plants.
- Market growth and industry costs.
- The Petrochemicals Business.
- The origins and history of the Industry.
- What makes the Industry unique?
- Costs, Margins, and Prices.
- Evaluation of the Major Players.
- Strategies employed by the major players.
- Industry Profitability.
- Ethylene and Propylene markets.

Unit 2: The Petrochemical Value Chains:

- Natural, Shale, and Stranded Gas.
- Sources of Gas.
- Supply and demand.
- Costs and pricing.
- The C1 Value Chain and Derivatives.
- Olefin Economics.
- Steam Cracker Margins.
- Feedstock costs and their impact on ethylene cost.
- Differences in costs and margins between producing regions.
- The dynamics of petrochemical feedstocks.
- Refining and gas separation.
- Olefins - Costs, Margins, Consumption, and Investment.
- An Introduction to Polyolefins.
- Aromatics Sources, Business, and Technologies.
- Sources of aromatics.
- Supply and demand.
- Costs and pricing.
- Styrene - routes to manufacture.

Unit 3: Ethylene and Propylene Fundamentals:

- The business of Ethylene.
- Feedstocks to produce Ethylene.
- Detailed investigation of major Ethylene Derivatives.
- The Future of Ethylene.
- Propylene.
- The business of Propylene.
- How the Propylene shortage was fixed.
- Detail of propylene derivatives.
- What the future holds.

Unit 4: C4 Derivatives and Introduction to Aromatics:

- Butylene and Butadiene Fundamentals.
- What are C4 molecules?
- How are they made and separated?
- What they are used for.
- Business Structure.
- What the future holds.
- Aromatics.
- The Aromatics business.
- Sources and production methods.
- Focus on Benzene Toluene and Xylene.
- Markets and Applications.

Unit 5: The Polymers Business and Course Conclusions:

- Plastics.
- What are they, and how are they made?
- Methods of manufacture.
- Polymer types.
- Key properties.
- Polymer Markets and Applications.
- Polyethylene Fundamentals.
- What are LDPE, HDPE, and LLDPE?
- How they are made.
- What they are used for.
- Margins and consumption.
- Business Structure.
- Polypropylene Fundamentals.
- What is polypropylene?
- How is it made?
- What is it used for?
- Margins and consumption.
- Business Structure.
- What the future holds.
- Polymers to Products.
- The properties of finished products.
- The Role of the Processor.
- Markets and Applications.
- Green Polyolefins, towards a sustainable future with Polymers.