

# Mini MBA Understanding the Dynamics of Petrochemicals Industry

## INTRODUCTION

- Petrochemicals are used extensively in our daily lives from trivial plastic materials to the high range sophisticated material used in artificial body parts, and medical devices. Petrochemicals business is growing rapidly. Such a rapid growth is also adding to the environmental risks.
- To an existing oil & gas producing and refining, it is very important to expand its hydrocarbon value chain by expanding into petrochemical business both to improve capital productive, by fully utilizing hydrocarbon by-products, and reduce the crude oil price risk for the integrated producing, refining and petrochemical business.
- This Mini-MBA in Understanding the Dynamics of the Petrochemicals Industry training course has been designed to enable participants to learn more about the value of petrochemicals and the success factors that can improve financial performance and help companies to survive during low prices and thrive when prices improve.

In this training course, the participants will gain the technical knowledge and business expertise and be able to:

- Determine the basic chemicals groups, and the rearrangement of Hydrocarbons chains in the process of adding economic value, and the measure of conversion and yield in a refinery
- Understand the basic refining operations and the business of petrochemicals
- Determine the project management evaluation and the key considerations in selecting proper technology, capital, and operating costs for the project
- Identify the technical and economic merits and the challenges in integrating petroleum refinery with petrochemicals
- Differentiate the petrochemical business concepts and individual merits with examples of Strategies / Business Models of Integrated Oil Companies, National Oil Companies and Non-Oil Companies
- Understand the petrochemical innovations, challenges & future trends
- Recognize and effectively deal the environmental issues arising from the rapid growth in the use of plastics

## OBJECTIVES

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

- Master the petrochemical value chain from the raw oil & gas to finished plastics, and other high value sophisticated material used in improving the quality of lives
- Enhance their knowledge of oil & gas production, refining, petrochemical operations, manufacturing, demand forecasting, sales contracts, prices, distribution, sales, etc.
- Evaluate the petrochemical markets, business strategies and petrochemical models
- Confidently discuss the technical terms, concepts and buzzwords in the petrochemical industry with your peers and clients

## ORGANISATIONAL IMPACT

- By sending their employees to this Mini-MBA in Oil & Gas Technology training course, the organization will gain a wider range of skills that participants gain and henceforth apply in their workspace that will directly benefit their respective companies.
- Offers a wider management perspective of global petrochemical business and highlights the success factors in each category of several business models
- Defines how innovations in energy and petrochemicals are helping to drive economic growth and improve living standards around the world
- Clarifies how we can achieve these goals while delivering value to shareholders
- Inculcates the corporate culture of effectively dealing with the core issues, tactics and essential concepts of successfully running the petrochemical business

## PERSONAL IMPACT

- Each participant will be able to enhance technical knowledge and business skills of Petrochemical Industry that will directly benefit his/her career growth.
- Master the core competencies of Petrochemical Industry
- Sharpen the business skills by learning those techniques that improve capital productivity and operational excellence
- Understand the value chain optimization in Petrochemical Industry and apply at the workplace to improve stockholders value
- Be fully cognizant of success factors of the different categories of the Petrochemical Industry – NOC's, IOC's, pure Chemical Companies, Pure Refining Companies, their relative strengths and weaknesses

## WHO SHOULD ATTEND?

- This Mini-MBA in Oil & Gas Technology of Our institute, Understanding the Dynamics of the Petrochemicals Industry training course is designed to train and improve the business knowledge of a wide range of professionals as follows:
- Business Development Managers
- Corporate Planning Professionals
- Geoscience & Engineering Professionals

- Refinery Professionals
- Supply Planners & Scheduling Professionals
- Government Regulators
- Law Professionals
- Tax & Finance Advisors
- Auditing Personnel
- Compliance Officers
- Equity Analyst and Bankers
- Joint Venture Officers
- Negotiators and Contracting Professionals
- Trading Professionals

## Course Outline

### Crude Oil Supply and Refining

- Introduction to Course
- Essence of International Oil Supply – Global Reserves, Production & Trade
- Introduction to Global Oil Business - Exploration, Extraction, Refining, Marketing, Transportation
- Global Oil Resources – World Oil and Gas Reserves, Production of Oil and Gas
- Industry Units – For the USA, Europe and Asia, Conversion Factors
- Crude Oil Classifications
- Crude Oil Quality Indicators, Crude Oil Characterization by Assays
- Crude Oil Distillation – Refined Products
- Oil Industry Units and Conversion Factors
- Fundamentals of Oil Economics
- Delivered Price of Crude Oil – The Concept GPW (Gross Product Worth)
- Value of Crude Oil and the Determining Factors in Crude Selection
- Introduction to Crude Oil Refining - Distillation
- Refinery Configurations
- Topping
- Hydroskimming
- Cracking
- Coking

### Refinery Economics and Petrochemicals

- Refinery Development
- Refinery Economics
- Net Refining Margin Calculation
- Introduction to Petrochemical
- What are Petrochemicals?
- Oil & Gas Value Chain leading to Petrochemicals – 2
- Classification of Petrochemicals
- How PC derived from Well Head to Products
- PC History and Its Key Role
- The Beginning of Petrochemical Industry

- Petrochemical Applications in Daily Life
- Petrochemical Applications in Health Care
- Basic Chemistry
- Basic Organic Chemistry
- Key Properties of Organic Chemicals

## Petrochemical Feedstocks, Processes and Equipment

- Feedstock For Petrochemicals
- The Different Raw Material For Petrochemicals from C1 to C50
- Different Feedstock Sources For Petrochemicals
- World Oil Refining and Petrochemicals Output Composition
- Difference between Fuels and Chemicals
- “Alternate Value” of Hydrocarbons: Gasoline Pool vs. Petrochemicals
- World Gas Oil Industry Basic Functions
- Petrochemical Processes And Equipment
- The Overview of Hydrocarbons Groups in Crude Oil
- The Basic Refining Operations and Processes
- The Working Knowledge of Basic Equipment Used in Petrochemical Industry
- Rearrangement of Hydrocarbons Chains
- The Measure of Conversion and Yield in Refinery
- Refinery-Petrochemical Integration
- Identify the Seven Basic Chemicals
- Learn What is meant by the Integration of Refining and Petrochemicals
- Explore What are the Benefits and Challenges of Integrating Refinery with Petrochemicals

## Petrochemical Value Chains and Markets

- Petrochemical Value Chains I
- Understand the Concept of Value Chain
- Understand How Series of Upgrades are Made From the Raw Material to the Finished Products
- Learn How these Value Chain are Optimized
- Understand the Chemical Linkage from Hydrocarbons to End Uses
- Petrochemical Value Chains II
- Exploring Olefins Value Chain - Ethylene, Propylene, and Polyvinyl Chloride
- Understanding How Their Demand is Driven
- Olefins Product Applications and Manufacturing Technology
- Petrochemical Markets-Mod9
- The Global Chemical Business
- Looking at the Chemical Industry Market Segments
- Learning Basic Market Research
- Learn What is Forecasting
- Explore The Forecasting / Planning Techniques

## Strategies and Project Evaluation

- Petrochemical Strategies
- Define the Petrochemical Participation Concept
- With Examples of Strategies / Business Models of
- International Oil Companies
- National Oil Companies
- Non-Oil Companies
- International Oil Companies Key Strategies
- National Oil Companies - Chemicals Business Structure and Key Strategies
- Major Non-Oil Companies Competitive Advantage
- Major Business Incentives - Five Categories
- Know about The Best in Class summary
- Understand The Key Success Factors
- Petrochemical Project Evaluation
- What are project management, and its core activities and considerations?
- Project Management Evaluation Steps
- What are the considerations in selecting proper technology, capital, and operating costs for the project?
- Capital Cost Estimates Accuracy
- The Different Ways of Conducting Financial Evaluation - Measures for Its Success and Adding Share-holder Value
- Comparative Measures of Performance
- Investment Appraisal Methods
- Project Selection Criteria
- Conclusions
- Petrochemical Innovations, Challenges & Future Trends
- What are the Drivers for Innovations in Petrochemicals?