ICIS petrochemicals training is designed to meet the needs of those working in fast-paced commercial roles across the industry. By building greater understanding of the mechanics of the petrochemicals industry – from production and supply, to strategies and investment trends, pricing and economics – delegates can improve their personal effectiveness in the constantly changing world of petrochemicals.

ICIS offers three petrochemicals courses which can be experienced individually or as a series.

- Petrochemicals: An In-depth Introduction (2 days)
- Fundamentals of Petrochemical Plant Economics and Forecasting (1 day)
- Fundamentals of Petrochemical Feedstocks (1 day)

Review the content for each course now, and find out how boosting your petrochemicals knowledge with ICIS can help you make more informed decisions and achieve your goals.

Choose ICIS with confidence

ICIS is the leading provider of petrochemical market intelligence around the globe. Choosing to train with ICIS means you’ll benefit from regularly updated course content as well as training and insight from experienced industry specialists.

ICIS trainers are all experienced industry professionals who share with delegates their up-to-date knowledge of the marketplace and provide a comprehensive understanding of the industry. Content is not heavy on chemistry and technology but geared towards the needs of delegates in more commercially focused roles. Our trainers also ensure that training course content is adapted and refreshed on a regular basis to take into account what is happening across the petrochemicals industry today.

In-House Training Solutions

All of our courses can be offered as an in-house solution to your company. Each course can be customised to suit your companies needs and tailor-made to meet your business objectives. Email our dedicated in-house team at enquiry@icis.com with your requirements.

Early bird offer

Book any course 6 weeks before the course date and receive a 10% discount
Petrochemicals: An In-Depth Introduction

This is a comprehensive, in-depth two-day course covering the key industry fundamentals from crude oil to finished products. The content focuses on commercial aspects of the industry and is therefore an ideal choice for those seeking a broad and cohesive view of products and markets, either as an introduction or a refresher.

Agenda

Day 1

REGISTRATION AND REFRESHMENTS
Welcome & Introduction

Petrochemicals introduced
- History of petrochemicals
- Terminology explained
- Steam cracking to make the building blocks

Olefins and derivatives
- Ethylene, propylene and butadiene
- Main value chains and end-uses
- Olefin chain exercise

REFRESHMENTS

Aromatics and derivatives
- Benzene, toluene, orthoxylene and paraxylene
- Primary and secondary sources of aromatics
- Main value chains and end-uses
- Aromatics chain exercise

LUNCH

Petrochemicals - a changed world
- Petrochemicals are a global business: who are the leaders; what are their roles?
- Industry trends; growth prospects
- Trade flows and shifting regional influences

Examining oil and its relationship with petrochemicals
- Oil/petrochemicals interface; challenges facing refiners
- Where petrochemicals are produced in refineries
- Production, consumption and reserves

REFRESHMENTS

Chemicals from coal
- Historical role of coal
- China’s coal to chemicals; acetylcs from coal
- Environmental concerns

CLOSING REMARKS

Day 2

WELCOME AND RECAP OF DAY 1

An introduction to natural gas, methanol and ammonia
- Types of natural gas: NGLs, LPGs and condensates
- Shale gas and its growing influence
- Methanol and ammonia from natural gas

Introduction to the chlor-alkali and vinyls chains
- Salt to chlorine and caustic soda
- Chlorine and caustic markets; PVC uses and markets
- Balancing the ECU

REFRESHMENTS

Introduction to petrochemical pricing
- The role of pricing – processes and challenges
- A practical look to how prices are set
- The regional influences

LUNCH

Future trends
- Overview of global investment conditions
- Europe, the US, the Middle East and Asia
- The major companies and their strategies

Break-out sessions

REFRESHMENTS

Break-out presentations
Course Wrap-up
End of seminar
Why attend this course now?

Petrochemical markets remain volatile in the wake of crude oil price reductions, the rise of shale gas in the US, feedstock issues in the Middle East and a slowing Chinese economy. What impact will these and other factors have across the petrochemicals industry in the mid- and long-term?

On completion of this two-day course, you will benefit from all of the following:

- A non-technical overview of feedstocks, production processes and applications
- Insight into business drivers and pressure points
- Practical examples of how prices are set and the reasons behind regional differences
- Understanding of key price drivers and the price assessment process
- Specific insight into your particular region
  - North American petrochemical industry developments
  - REACH and its impact on the European chemicals industry
  - The fibres/fibre intermediates chain in Asia and the outlook for China, India and Southeast Asia.

“I attended to refresh knowledge achieved over more than 25 years in the chemical industry. Future trends and the impact on shale gas were also of interest.”

In these challenging times, it is crucial to understand the petrochemicals upstream relationships with oil and gas, as well as the various value chains and how they interact, the key production processes, how petrochemical markets function and the regional differences. This course covers all of these in impressive detail.

Some key questions to consider…

- Are we entering a sustained period of lower oil prices? If so, what will this mean?
- How will US ethylene derivative capacity expansion impact availability of other products?
- What will the Chinese slow down mean for trade flows and global surpluses?
- and how to recognise and plan for them

“I thank you! I gained more insight into the markets into which I sell.”
FUNDAMENTALS OF PETROCHEMICAL PLANT ECONOMICS AND FORECASTING

This one-day interactive course explains petrochemical industry cost structures and their impact on profitability, prices and markets. It also reveals the basics of forecasting. The content is particularly useful for roles that require a business view of petrochemical costs and profitability, as well as those who undertake chemical price negotiations.

Agenda

REGISTRATION AND REFRESHMENTS

Welcome and Introduction

Petrochemicals overview
- Key building blocks and value chains
- Market dynamics

REFRESHMENTS

Petrochemicals overview (continued)

Industry Cost Analysis
- Cost structure build up
- Product yields, role of co-products
- Essentials of cost analysis
- Understanding industry cost curves

LUNCH

Industry Profitability Analysis
- What are spreads and why are they important
- Margins explained
- Impact of margins on pricing

Exercise

REFRESHMENTS

Fundamentals of forecasting
- Understanding key short term and long term business drivers
- Short term price forecasts and the challenges
- Long term forecasts and challenges

End of seminar
In these volatile times, many market players are questioning how oil prices impact petrochemical producers’ costs and profitability. This is why it is even more important to understand the fundamentals of fixed and variable cost structures, the basics of spreads and margins, and the mechanics of profitability and forecasting.

Some key questions to consider…

- Why is producer behaviour changing and how does that link to prices?
- Why is forecasting so necessary, particularly when the markets are so changeable?
- Which factors are most important for short-term price forecasts?

On completion of this one-day course, you will benefit from all of the following:

- The basics of fixed and variable cost components and product yields
- Understanding of how feedstock costs impact profitability
- Knowledge of how margins are calculated
- Understanding of industry cost curves
- Insight into cracker co-products and their margin contribution
- How to make more robust short-term and long-term forecasts

“Now I understand my customers’ world better and I will hopefully forecast our opportunities and challenges better too.”
FUNDAMENTALS OF PETROCHEMICAL FEEDSTOCKS

This full day course provides a comprehensive view of the upstream industries providing petrochemical raw materials. Delegates will understand the workings of the refining and natural gas industries, gas processing, refining economics and refining-petrochemicals integration.

Agenda

REGISTRATION AND REFRESHMENTS
Welcome & Introduction
Crude Oil: History and Terminology
- How oil shaped geopolitics and economies
- OPEC, IOCs and NOCs: reshaping the politics of oil
- Global crude oil production, consumption and reserves
- Types of crude oil, measurements and terminology

REFRESHMENTS
How Refineries Work
- The refining industry: humble beginnings
- Today's major refining steps: separation, conversion, purification (SCP)
- Nelson Index: Simple to highly complex refineries
- Today's global refining industry

Morning Quiz and Q&A
An Introduction to Refining Economics
- Key economic variables: inputs, outputs, expenses
- The Utopia Refinery – example refinery profit analysis
- Crude assays and crack spreads: tools to manage & measure profitability
- Key refining issues: challenges facing an aging industry

LUNCH

Afternoon
Introduction to Natural Gas Processing
- Types of natural gas: NGLs, LPGs and condensates
- Natural gas reserves, production and consumption
- Natural gas trade: pipelines and LNG
- Natural gas processing: gas conditioning and treatment, NGLs recovery

Making Petrochemical Building Blocks
- Steam cracking explained
- Cracker feedstocks and co-products
- Petrochemicals from the refinery: FCC and catalytic reforming
- Other processes: propane dehydrogenation, metathesis, dimerization

REFRESHMENTS
Synthesis Gas Routes to Petrochemicals
- Processes to make synthesis gas
- Conversion of synthesis gas to methanol, ammonia, olefins
- Gas to liquids via Fischer-Tropsch

Coal and Petrochemicals
- Background to coal-based petrochemicals
- Coal gasification explained
- Coal to chemicals: examples in the US and China
- Concept of coal polygeneration

Review and Quiz
Future Routes to Petrochemicals
- Bioethanol to make ethylene and PE
- Other bioprocesses to petrochemicals

End of seminar
Why attend this course now?

An understanding of crude oil and the refining industry, as well as alternative feedstocks such as natural gas, is vital when analysing the impact of new developments in a changing market. In the current petrochemicals environment, where conditions are volatile and oil prices have plummeted, it is particularly important to understand the impact of oil on petrochemicals, including insight into the various refining processes and refining economics.

Some key questions to consider…

- Where do petrochemical feedstocks come from and how are they made?
- What is the role of gas in petrochemicals? What are its competing uses?
- How do refining economics impact downstream petrochemicals?
- What alternative feedstocks are likely to become available in the future?

On completion of this one-day course, you will benefit from all of the following:

- Understanding of upstream crude oil and refining businesses
- Challenges facing the refining industry and its impact on petrochemicals
- Information on alternative feedstocks such as natural gas and coal and their role
- An overview of future petrochemical routes including bio-based feedstocks

“**It helped me better understand how upstream materials are related the manufacturing of petrochemicals.**”

“**This course gave me insight into the petrochemical upstream and a better understanding of the economics of refineries.**”
OUR PETROCHEMICAL COURSE LEADERS

Nigel Davis
Course Director, ICIS
Nigel has been part of the ICIS training team since its inception. A chemist by training, Nigel is Insight editor with ICIS and contributes regularly to the 24-hour online chemicals news service.

Nigel has written about the chemical industry in many publications since 1979, including news and company magazines, encyclopaedias and specialist reports. For 13 years he wrote and edited the newsletter Chemical Insight.

He presents regularly at conferences and training events and has widely shared his understanding of the sector.

He has helped develop global chemical industry scenarios and has been involved with UK government reports on chemicals sector sustainability.

Nigel is a Fellow of the Royal Society of Arts (RSA) and through the RSA takes a general interest in industry and business matters.

Paul Cherry
Consultant, Officum Projects
Paul has 20 years experience in the petrochemical industry working for Lyondell Basell and its predecessor companies, Basell, Montell and Shell Chemicals.

Paul’s early career was spent in laboratory, technical service & product development, manufacturing, sales and procurement roles in Australia.

From 2002 to 2010 he was based in Hong Kong and was responsible for supply chain and procurement activities in Asia, Africa, the Middle East and the Indian Subcontinent. After leaving Lyondell Basell, Paul has been working with Officium Projects, a company offering consulting and engineering services to the petrochemical industry as well as the ICIS training business.

Paul has a Bachelor of Applied Science degree and a Doctorate of Philosophy majoring in polymer science both from the University of Melbourne.

John Richardson
Consultant, ICIS Asia
John is a highly experienced journalist, who has been covering the chemicals industry for more than 15 years.

Based in Asia-Pacific, John has deep knowledge of the companies and people who have transformed the region into the world’s major production and consumption region. His aim is to provide insightful, factually based analysis of the key issues facing the industry. His views are highly valued by senior executives, who appreciate his balanced and independent approach.

Since 2006, John has been Director - Asia of ICIS training, in which role he has successfully launched the ICIS training business in Asia.

John is also co-authoring a new e-book, Boom, Gloom and the New Normal, with Paul Hodges of United Kingdom based consultancy, International eChem. The book, currently being published by ICIS, examines how demographic factors and events in financial markets have reshaped the global economy.

His Asian Chemical Connections blog has a wide regional and global readership and he also writes regularly for ICIS Insight and ICIS Chemical Business.

Previously John was Editor of Asian Chemical News. Prior to joining ICIS in 1997, he had roles working for both the BBC and the UK national press.

George Martin
Senior Consultant, ICIS
George Martin has been a commodities reporter since 1994, and an ICIS editor for more than 10 years. He has extensive experience covering Latin American polymers markets and has recently joined ICIS Consulting in 2015.

George is well known in the sector for his expertise on polymers pricing dynamics and logistics, and has become a frequent guest speaker at industry events.

George has ample experience in Latin American crude oil and refined products coverage, as well as knowledge of the region, its potential and the current issues affecting it.

He studied Mechanical Engineering at the Catholic University of Cordoba, Argentina, and Information Science at the National University of Cordoba, Argentina.

George immigrated to the US in 1976, settling in the Houston area, where he pursued a specialty in Data Processing.

Peter Taffe
Course Director, ICIS
Peter Taffe, a chemical engineering graduate from the University of Leeds in Britain, has over 30 years of experience in analysing the chemicals industry.

Peter has been part of ICIS training since its inception. Besides training, Peter is also part of the ICIS Data & Analytics team, which provides context to pricing and news. His present position is Intelligence Editor with responsibilities including Plants & Projects and Chemical and Company Intelligence reports. The Chemical reports look primarily at the market and pricing dynamics of individual petrochemicals as well as the processes used to make them.

He is also involved in generating weekly margin reports such as those on ethylene, polyethylene and polypropylene. These reports analyse the profitability along different petrochemical chains to help companies develop business strategies in regard to pricing.

He has previously worked as a journalist and an editor for Process Engineering, Chemical Age, Processing, Asian Chemical News and European Chemical News.