Training catalogue 2013

IChemE ADVANCING CHEMICAL ENGINEERING WORLDWIDE

Welcome to IChemE's training catalogue 2013

IChemE provides products and services tailored to support the career-long development of chemical, process and related professionals. We constantly strive to meet industry needs and all our courses reflect this.

The comprehensive programme of quality assured training courses for 2013 includes over 50 courses which take place across the UK and internationally.

The range of subject areas include: safety, process automation and control, project management and process. With courses on HAZOP to alarm management, explosion hazards to energy savings, pressure relief to project management, you can be sure to find a course that meets your development needs.

For detailed information on the courses featured in the catalogue, including programme outlines and testimonials from past attendees, visit www.icheme.org/courses. If you have any specific questions contact the relevant course organiser.

In-company training

If you think that several of your colleagues could benefit from the same course, why not speak to us about running it in-house? An in-house course will guarantee the programme addresses your own operational processes, whilst generally being a more cost effective option.

Contact courses@icheme.org to discuss your requirements and request a quotation.

e-learning

IChemE also offers a range of online courses which offer a flexible way to develop new skills at a time and place that suits you. See pages 36–37 or visit www.icheme.org/elearning for details.

We feel you will find this catalogue invaluable when planning your training requirements for the coming year and find a successful course to further develop yourself.

How to book

Contact the relevant course organiser to reserve your place. For courses run by IChemE, use the booking form at the back of the catalogue or book online at www.icheme.org/courses

Email: courses@icheme.org

Tel: +44 (0)1788 578214

Fax: +44 (0)1788 560833

Process Safety and the Board: an Executive Programme in Process Safety Management

Review your understanding of process safety management to keep operations safe and meet your obligations for the direction of the organisation

A one-day, customised programme with specific objectives to enhance the safety assurance of the business by:

- developing the board's understanding of the principles of process safety management, of human factors and how the safety culture affects performance
- ensuring board awareness of the process safety hazards of the business and of their role in managing these hazards
- methods used to inform the board of the status of process safety across the company
- exploring how the board's commitment to process safety is understood throughout the company and by the contractors employed in its operations

To find out more or register your interest tel: +44 (0)1788 534431, email: courses@icheme.org

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11–13	Practical Aspects of Process Control and Instrumentation	Aberdeen, UK	31
11–15	SIL Determination and Hazard Assessment	Edinburgh, UK	34
12–14	Chemical Engineering for Other Engineers	Shipley, UK	9
12–15	HAZOP Study for Team Leaders and Team Members	Manchester, UK	25
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25–27	Design and Operation of FPSOs	Aberdeen, UK	15
26	Better by Design – Sustainable Business and Chemical Engineering	Redcar, UK	7
26–27	Explosion Science	Skelmersdale, UK	17
26–27	Managing Deterioration of Plant Equipment	Edinburgh, UK	30
27–29	Control and Operation of Centrifugal Gas Compressors	Houston, USA	12
27–28	SIL Determination IEC 61508/61511	Edinburgh, UK	34
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2–4	Production, Process and Emergency Systems on Oil and Gas Installations	Aberdeen, UK	33
4–6	Control and Operation of Centrifugal Gas Compressors	Calgary, Canada	12
9–11	Control and Operation of Centrifugal Gas Compressors	Aberdeen, UK	12
February 2014			
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Alarm Management

A practical training course in the application of good alarm management practice to the requirements of EEMUA 191.

Key topics

On completion of this course participants will be able to:

- understand why their alarm system should be managed
- have a good awareness of EEMUA 191 and its core principles
- develop an alarm system management strategy
- develop an alarm design strategy
- better understand effective alarm usage and how to configure alarms
- have an understanding of how to measure and what tools are available
- understand what is required to run an alarm rationalisation project
- identify nuisance alarms and assemble a toolkit that helps reduce them

Who will benefit

Anyone involved in the specification, design, operation and maintenance of control systems or anyone who has an interest in improving their current alarm system.

Course directors

Tony Atkinson and Peter Bruce, ABB Consulting

Dates

26–28 February 2013
2–4 October 2013

Location

Manchester, UK
Edinburgh, UK

Fees

IChemE member – £1525.00 + VAT
Non member – £1650.00 + VAT

Contact

Jackie Kendall, ABB Consulting, UK

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Area Classification

The classification of hazardous areas is an integral part of the overall risk assessment process required under the Dangerous Substances Explosive Atmospheres Regulations 2002 (DSEAR). Its purpose is to define the extent, frequency and duration of any occurrence of an explosive atmosphere (the zone). The zone in turn defines the requirements for the selection of equipment and protective systems so as to prevent sources of ignition. Compliance with the DSEAR regulations is mandatory for any operator handling dangerous substances.

Key topics

- introduction to the risk assessment requirements under DSEAR (2002), in particular the requirements for area classification and selection of equipment to avoid ignition sources
- the flammability of gases, vapours and dusts and how they relate to area classification
- introduction to BSEN60079-10, the British Standard for area classification relating to gases and vapours and BSEN61241-10, the British Standard for area classification relating to dusts

Who will benefit

Recent graduates and experienced staff with operations, process, engineering and safety responsibilities.

Course director

Mike Ellis, ABB Consulting

Dates

17–18 April 2013
15–16 October 2013

Location

Edinburgh, UK
Manchester, UK

Fees

IChemE member – £1050.00 + VAT
Non-member – £1130.00 + VAT

Contact

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Better by Design – Sustainable Business and Chemical Engineering

A facilitated workshop for businesses within the chemistry-using industries, providing practical guidance on incorporating sustainable thinking and practices into new and existing business processes. By incorporating sustainable design into your innovation processes, your business will be better able to ensure future profitable growth and strategic portfolio development. It will also enhance your reputation with stakeholders and facilitate long term survival.

Key topics

The workshop will be structured around a series of interactive sessions based on a detailed case study. It will introduce:

- the drivers, opportunities and benefits relating to sustainability thinking and practices
- how innovative sustainable design can be applied to your business through a clear staged process
- key tools such as 'CCaLC', a free-to-use Life Cycle Analysis (LCA) package
- further resources, in particular the *Sustainable Design Guide* workbook that comes with the course
- inspirational examples of successful sustainability practice and innovation

Who will benefit

Influencers of product specification and design, eg executives, managers, engineers. Those looking to understand and use life cycle thinking, LCA and sustainable design tools.

Course directors

Ben Peace, C-Tech Innovation and Mike Pitts, Chemistry Innovation

Dates

30 April 2013
26 November 2013

Location

London, UK
Redcar, UK

Fees

IChemE member – £250.00 + VAT
Non-member – £350.00 + VAT

Contact

Courses department, IChemE, UK

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www.icheme.org/susguide

Carbon Footprinting

This hands-on course presents revolutionary techniques used to estimate the carbon footprints of products, processes and technologies. Life Cycle Analysis (LCA), used to calculate the carbon footprint along supply chains, will be explained and applied in a number of practical case studies and hands-on exercises using the CCaLC carbon footprinting software tool. The differences between the ISO 14044 and PAS2050 standards will be examined, and the advantages and disadvantages of carbon labelling will be discussed.

Key topics

Participants will learn about a range of issues related to carbon footprinting, including:

- the requirements of the LCA and carbon footprinting standards ISO 14044 and PAS2050
- how to estimate a carbon footprint for business-to business and business-to-consumer communication
- how to identify and reduce carbon 'hot spots' along supply chains.

Who will benefit

This course is aimed at corporate and other organisations, and could, in particular, be useful for:

- environmental and sustainable development managers
- technical and operations managers
- communications and marketing managers
- R & D managers
- estates and business development managers
- any other professionals who wish to update their knowledge on carbon footprint-related issues

Course director

Professor Adisa Azapagic, FIChemE FRSC FRSA

Dates

26–27 June 2013

Location

Manchester, UK

Fees

IChemE member – £700.00 + VAT
Non-member – £800.00 + VAT

Contact

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Tel: +44 (0)1788 578214, Fax: +44 (0)1788 560833

Email: courses@icheme.org

www.icheme.org/carbon

Chemical Engineering for Non–Chemical Engineers – Australia

This intense course is aimed at engineers and scientists working in the chemical and process industries, at government agencies who work in close collaboration with chemical engineers, and at companies who employ chemical and process engineers. It offers an introduction to some of the main subject areas involved in chemical engineering disciplines and will broaden the technology base of participants with a view to promoting improved communication with chemical engineers.

Key topics

- what is chemical engineering
- material and energy balances
- fluid flow
- process heat transfer
- reactor design
- basic mass transfer and mass transfer operations
- process safety and HAZOP

Who will benefit

- mechanical engineers
- production engineers
- civil engineers
- chemists
- human resource managers
- department managers
- environmental scientists

Course director

Dr David Shallcross, University of Melbourne

Dates

15–17 July 2013
11–12 November 2013

Location

Brisbane, Australia
Melbourne, Australia

Fees

IChemE member – $2300.00 (GST inc)
Non-member – $2800.00 (GST inc)

Contact

Courses department, IChemE, Australia

Tel: +61 (0)3 9642 4494, Fax: +61 (0)3 9642 4495

Email: austcourses@icheme.org

www.icheme.org/chemaus

Chemical Engineering for Other Engineers

This well-established course is designed for engineers working in the chemical and process industries, and provides an introduction to some of the main subject areas involved in chemical engineering that are not normally included in other engineering disciplines. It will broaden the technology base of participants with a view to promoting improved communication across engineering disciplines. It may also provide the basis for a more detailed study of chemical engineering. The course is delivered by a team of experienced chemical engineers drawn from industry and academia.

Key topics

- what is chemical engineering
- material and energy balances
- reactor design
- basic mass transfer and mass transfer operations
- solvent extraction
- solids processing
- electrostatic ignition hazards in chemical operations

Who will benefit

- mechanical engineers
- production engineers
- control engineers
- civil engineers
- instrumentation engineers
- electrical engineers

Course director

Professor Philip Bailes, formerly Professor of Process Engineering, University of Bradford

Dates 12–14 November 2013

Location Shipley, UK

Fees

IChemE member – £1400.00 + VAT
Non-member – £1500.00 + VAT

Contact

Courses department, IChemE, UK

Tel: +44 (0)1788 578214, Fax: +44 (0)1788 560833
Email: courses@icheme.org
www.icheme.org/chemeng

Chemical Engineering for Scientists

This well-established course provides chemists and other scientists working in the chemical and process industries with the opportunity to understand the basic concepts and general philosophy of chemical engineering. It aims to broaden the technology base of participants with a view to promoting improved communication with chemical engineers and may also provide the basis for a more detailed study of the subject. The course is delivered by a team of experienced chemical engineers drawn from industry and academia.

Key topics

- what is chemical engineering
- material and energy balances
- fluid flow
- process heat transfer
- reactor design
- basic mass transfer and mass transfer operations
- electrostatic ignition hazards in chemical operations
- biochemical engineering
- solids processing

Who will benefit

- chemists
- physicists
- biologists
- pharmacists
- environmental scientists

Course director

Professor Philip Bailes, formerly Professor of Process Engineering, University of Bradford

Dates 18–22 March 2013
7–11 October 2013

Location Shipley, UK

Fees

IChemE member – £1500.00 + VAT
Non-member – £1600.00 + VAT

Contact

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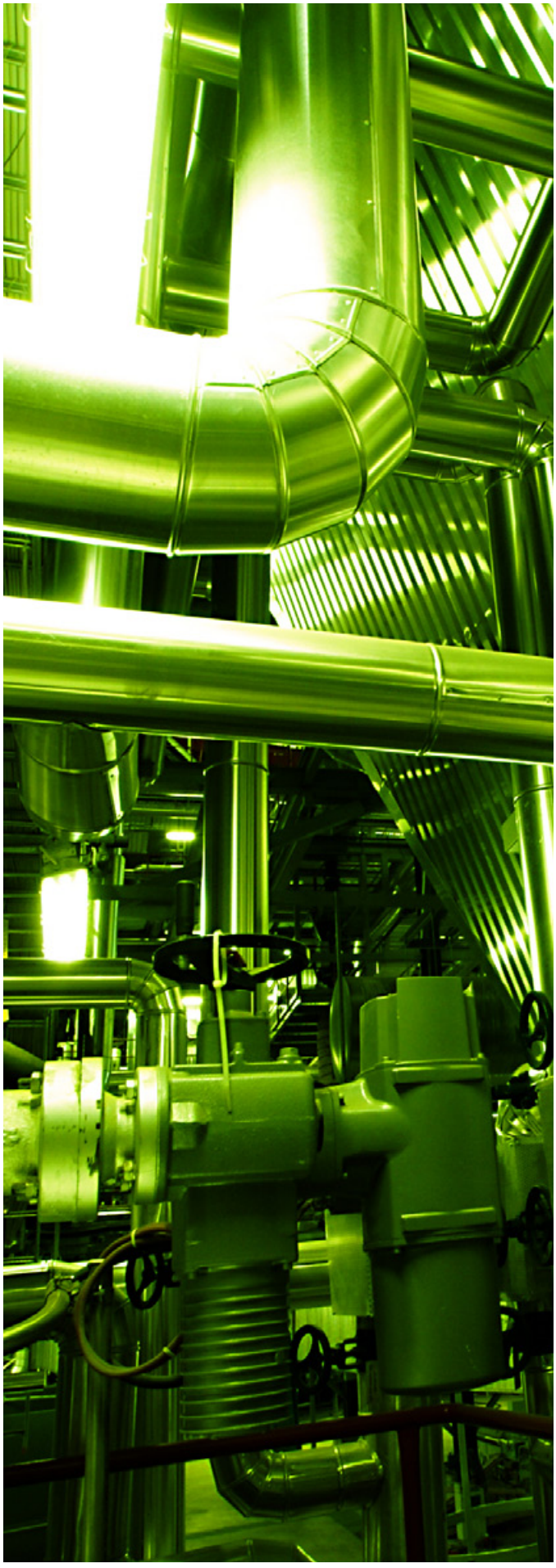

Chemical Plant Commissioning

This course deals with the commissioning and start-up of process plants, both large and small. It covers many different aspects including the planning and managerial aspects of major plants, and the start-up of small plants, with an emphasis on the technical problems, and dealing with the documentation associated with commissioning. Lecture materials are delivered by a number of specialists in the field, all of whom have been associated with start-ups themselves. There is substantial emphasis on tutorial exercises in both commissioning and pre-commissioning.

Key topics

- introduction to plant commissioning
- introduction to pre-commissioning
- planning: where to begin and end
- risk-based commissioning and start-up
- quality assurance and coping with the paperwork
- commissioning instruments
- diagnosing causes of mal-operation
- commissioning process control systems
- safety in commissioning
- IPPC and environmental aspects of commissioning

Who will benefit

- young graduate process engineers about to take on their first major commissioning responsibility
- process engineers who want to strengthen their knowledge in commissioning in order to commission a new plant

Course director

Professor Mike Fairweather, University of Leeds

Dates 3–5 July 2013

Location Leeds, UK

Fees Available on request

Contact

CPD, conference and events co-ordinator,
Faculty of engineering,
University of Leeds, UK

Tel: +44 (0)113 343 2494 / 8104
Fax: +44 (0)113 343 2511
Email: cpd@engineering.leeds.ac.uk
www.engineering.leeds.ac.uk/short-courses

Communication and Presentation Skills for Engineers

Professional engineers have an obligation to possess effective soft skills, including communication and presentation skills, according to the Engineering Council's UK Standard for Professional Engineering Competence (UKSPEC). This is the document that lays out what's expected of professionals who aspire to CEng status.

This interactive course provides engineers working at all levels with a fundamental understanding of communication and presentation principles. It gives practical advice on the different modes of communication, and examines how to design and deliver an effective presentation. A large part of the course is devoted to developing assertiveness and confidence and overcoming presentation nerves. By the end of the course participants will feel confident in their ability to influence and communicate with colleagues and clients effectively to get the results they need.

Objectives

By the end of the course delegates should be able to:

- understand the different ways in which we communicate
- understand the importance of building rapport
- select the most effective mode of communication for a given situation
- listen effectively
- understand the huge impact of body language in communication
- develop effective communication strategies
- communicate with increased assertiveness
- structure a presentation effectively for a given time and given audience
- use techniques to enhance their physical presence
- improve the control of their nerves
- use their voice effectively to enhance the presentation
- deal with questions more effectively
- use visual aids such as PowerPoint more effectively

Who will benefit

Engineers working at all levels who want to improve their communication and presentation skills.

Course director

Dr Jamie Cleaver, PhD, CEng, FIChemE

Dates

9–10 April 2013
8–9 October 2013

Location

Rugby, UK
Rugby, UK

Fees

IChemE member – £700.00 + VAT
Non-member – £800.00 + VAT

Contact

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Email: courses@icheme.org

www.icheme.org/interpersonal

"Improved my self confidence in presenting"

Garry Moore,
BIS Industrial Services

"Equipped me with many tools to tackle difficult situations. I'll be suggesting others from my organisation to attend!"

Aisha Akram,
Murco Petroleum Ltd

Control and Operation of Centrifugal Gas Compressors

This hands-on course uses dynamic simulation models to give a practical introduction to centrifugal gas compressors and their operation in process plants. The practical exercises and workshops will use dynamic simulation models of compression systems running on PCs. They will be easy to use and participants will require no prior knowledge of dynamic simulation.

Key topics

- compression principles
- process and control description
- compressor operations
- mechanical design – centrifugal compressors
- instrumentation and control
- simple anti-surge control
- recycle valve sizing
- compressor protection and complex anti-surge control
- compressor operations
- case studies

Who will benefit

Engineers with little previous knowledge of compressors who are involved in the design, control, operation or commissioning of process plants.

Course director

Mark Dixon, ESD Simulation Training

Locations, dates and fees

London, UK	22–24 January 2013 £1931.00 + VAT
Houston, USA	6–8 February 2013 US$2850 plus taxes
Brisbane, Australia	27 February–1 March 2013 A$3115 + GST
Perth, Australia	5–7 March 2013 A$3115 + GST
Aberdeen, UK	13–15 March 2013 £1931.00 + VAT
Calgary, Canada	10–12 April 2013 C$2850 plus taxes
Aberdeen, UK	17–19 April 2013 £1931.00 + VAT
Aberdeen, UK	12–14 June 2013 £1931.00 + VAT
Houston, USA	26–28 June 2013 US$2850 plus taxes
Calgary, Canada	11–13 September 2013 C$2850 plus taxes
Perth, Australia	25–27 September 2013 A$3115 + GST
Adelaide, Australia	30 September– 2 October 2013 A$3115 + GST
Darwin, Australia	7–9 October 2013 A$3115 + GST
Aberdeen, UK	15–17 October 2013 £1931.00 + VAT
Melbourne, Australia	30 October– 1 November 2013 A$3115 + GST
Houston, USA	27–29 November 2013 US$2850 plus taxes
Calgary, Canada	4–6 December 2013 C$2850 plus taxes
Aberdeen, UK	9–11 December 2013 £1931.00 + VAT

Contact

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www.esd-simulation.com

Control, Operation and Design of Reciprocating Gas Compressors

This course offers delegates a comprehensive overview of the design, construction, control and operation of reciprocating compressors. The course describes the principles of operation of the compressor and how the design is adapted to a number of different configurations to meet numerous needs. A fundamental understanding of gas behaviour will be an asset but not mandatory.

Key topics

- compressor selection
- compression process
- theory of operation
- compressor operation
- compressor cylinder assembly
- frame assemblies and compressor configurations
- cooling and lubrication
- capacity control
- performance & design calculations
- case studies and compressor applications

Who will benefit

Operations personnel of a non-mechanical background who are either supervisors or responsible for the day-to-day operation and maintenance of reciprocating compressor installations. This includes process operators, supervisors, technicians and engineers who do not have a mechanical background.

Course director

Mark Dixon, ESD Simulation Training

Location, dates and fees

Houston, USA	4–5 February 2013 US$2250 plus taxes
Brisbane, Australia	25–26 February 2013 A$2283 + GST
Calgary, Canada	8–9 April 2013 C$2250 plus taxes
Houston, USA	24–25 June 2013 US$2250 plus taxes
Aberdeen, UK	4–5 September 2013 £1491.00 + VAT
Calgary, Canada	9–10 September 2013 C$2250 plus taxes
Perth, Australia	23–24 September 2013 A$2283 + GST
Melbourne, Australia	28–29 October 2013 A$2283 + GST
Calgary, Canada	2–3 December 2013 C$2250 plus taxes

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www.esd-simulation.com

Creativity for Chemical Engineers

Many chemical engineers do not consider their work to be creative. Much of the day-to-day work involves established methods, protocols and design codes, built on years of experience of what is most effective and safe. However, even within the constraints of these established procedures there is scope to adopt a creative approach to solving problems, and great potential benefit in doing so.

This course brings the concept of creative thinking directly to the chemical engineer, aiming to equip delegates with sufficient background and techniques to improve their creative thinking in their professional lives. After an introduction to creativity in the context of chemical engineering, the course will provide an overview of the entire process of creative problem solving, addressing problem definition, and the identification and removal of blocks to creative thought. The main creative problem solving tools relevant to the discipline will be introduced including Synectics, CPS, TRIZ, and the work of de Bono. The course will complete the picture by covering the selection, implementation and evaluation of solutions.

Objectives

At the end of the course, delegates will:

- understand the role of creative thinking within the context of chemical engineering
- appreciate the importance of environment and team dynamics in creative problem solving
- be able to apply criteria to help define the real problem
- be able to recognise mental blocks and initiate their removal by 'blockbusting' techniques
- appreciate a range of creative processes for identifying solutions to the real problem
- be introduced to the Kepner-Tregoe (KT) approach for selecting an appropriate solution
- understand the process of implementing a solution effectively
- be able to evaluate a solution against the criteria of effectiveness, safety and ethics

Who will benefit

- junior engineers who want to gain the skills and experience required for chartered status
- senior engineers who want to release the creative potential of their extensive engineering experience

Course director

Dr Jamie Cleaver, PhD, CEng, FIChemE

Dates

5 June 2013

Location

Rugby, UK

Fees

IChemE member – £400.00 + VAT
Non-member – £450.00 + VAT

Contact

Courses department, IChemE, UK

Tel: +44 (0)1788 578214, Fax: +44 (0)1788 560833

Email: courses@icheme.org

www.icheme.org/creativity

Design and Operation of FPSOs

This course has been designed to provide a comprehensive study into the subject of modern floating, production, storage and off-loading facilities (FPSOs). The subject matter is presented in a manner to reflect what might be considered a standard project development path and encompasses the areas of technology, engineering, project management and legislation.

Key topics

- introduction to floating production systems
- field development
- FPSO system
- mooring and turret design
- subsea system
- marine systems

Who will benefit

A wide range of personnel whose work scope involves the specification, design, management or operation of FPSO projects.

Course director

Bob Hodder, ESD Simulation Training

Locations, dates and fees

Aberdeen, UK	13–15 February 2013 £1931.00 + VAT
Perth, Australia	9–11 October 2013 A$3427 + GST
Aberdeen, UK	25–27 November 2013 £1931.00 + VAT

Contact

Emily Wright, ESD Simulation Training, UK

Tel: +44 (0)1467 634934, Fax: +44 (0)1467 634949

Email: emily.wright@esd-simulation.com

www.esd-simulation.com

Design and Operation of Piping Systems

Aims to explain why it is necessary to pay attention to piping systems at all stages throughout their life cycle to prevent loss of containment and thereby maintain a license to operate. The course identifies the principles and methods of piping design together with the requirements for layout and routing, testing, commissioning and safe operation, taking into account the whole life cycle of piping systems.

Key topics

- code compliance
- layout
- routing
- flexibility analysis
- supporting
- testing
- commissioning

Who will benefit

- participants who require an increased awareness and understanding of the design features and the causes of piping failures and how to resolve the problems that can occur
- anyone who is involved in design,construction, inspection, operation or maintenance of piping systems or who needs a design appreciation or to be aware of safer piping practices

Course director

Laza Krstin, ABB Consulting

Dates

12–13 March 2013
22–23 October 2013

Location

Edinburgh, UK
York, UK

Fees

IChemE member – £1250.00 + VAT
Non-member – £1350.00 + VAT

Contact

Jackie Kendall, ABB Consulting, UK

Tel: +44 (0)1642 372121, Fax: +44(0)1642 372296

Email: jackie.kendall@gb.abb.com

www.abb.com

Engineering Project Management

Introduces the systems, tools and techniques that can be used to facilitate the management of engineering projects, allowing participants to take an informed view on how best to deliver, control and manage a project through to a successful conclusion.

The course clearly demonstrates the range of techniques that can be used, providing a structured approach to delivery and for managing the many issues that inevitably arise throughout the project life cycle.

Key topics

The course covers how to:

- establish and plan a project
- define roles and responsibilities
- create cost estimates, measure and control costs
- measure progress
- analyse and apply earned value
- control, report and quantify change
- identify and quantify risks
- measure and manage safety
- participate in partnering and alliancing arrangements
- undertake procurements and apply contracts

Who will benefit

- engineers new to project and construction management
- project managers with some years of experience
- construction engineers and managers
- line managers

Course director

David Andrews, consultant

Dates

21–23 October 2013

Location

Manchester, UK

Fees

IChemE member – £1350.00 + VAT
Non-member – £1450.00 + VAT

Contact

Courses department, IChemE, UK

Tel: +44 (0)1788 578214, Fax: +44 (0)1788 560833
Email: courses@icheme.org
www.icheme.org/epm

Engineering Procurement

This course covers the particular requirements of engineering procurement in terms of quality, HSE, technical specifications and intellectual property rights. Procurement is one of the core business processes, and successful procurement can be the difference between a profitable and loss making project or product. The decisions leading to successful procurement are made throughout the business, from technical specifiers to financial managers and of course procurement managers. An understanding of the core concepts and approaches will aid the adoption of processes that increase value and reduce costs, whilst also improving HSE and CSR performance.

Objectives

At the end of the course participants will understand how to improve safety, reduce costs and increase value from suppliers through adopting appropriate procurement approaches for each category of materials and services. They will be aware of the relationships between price, cost and value, the benefits of a whole life cycle cost approach, and how suppliers segment their customer base. They will have drawn up action plans for their business based on the course content, and this information can then be shared with others and built into their business processes to improve overall commercial performance and profitability.

Who will benefit

- procurement managers
- engineering managers
- project managers
- commercial managers
- buyers
- technical specifiers
- engineers responsible for the commissioning of equipment or services

Course director

Dr Paul A Wright, consultant

Dates

25 September 2013

Location

Rugby, UK

Fees

IChemE member – £500.00 + VAT
Non-member – £550.00 + VAT

Contact

Courses department, IChemE, UK

Tel: +44 (0)1788 578214, Fax: +44 (0)1788 560833
Email: courses@icheme.org
www.icheme.org/procurement

Essentials of Pressure Systems

Aims to provide the fundamental understanding required for managing the integrity of pressure systems equipment, highlighting some of the problems that may be encountered and how to avoid them. The course covers design issues, significant deterioration mechanisms and failure modes that can affect the integrity of pressure equipment, and provides an overview of the UK legislative framework relating to pressure systems.

Key topics

- legislation
- vessels and low pressure storage
- piping components
- valves and steam trapping
- supports
- quality control
- pressure testing
- pressure relief
- deterioration mechanisms

Who will benefit

- participants of all backgrounds who require an overview or refresher of the essential elements of design and integrity management of pressure systems equipment
- the course will be particularly beneficial to engineers and managers in design, construction, operations and maintenance roles

Course director

Laza Krstin, ABB Consulting

Dates

5–6 February 2013
10–11 September 2013

Location

York, UK
Edinburgh, UK

Fees

IChemE member – £1250.00 + VAT
Non-member – £1350.00 + VAT

Contact

Jackie Kendall, ABB Consulting, UK

Tel: +44 (0)1642 372121, Fax: +44(0)1642 372296

Email: jackie.kendall@gb.abb.com
www.abb.com

Explosion Science

Provides a comprehensive understanding of the phenomenon of explosions, what effects and consequences can be expected, and how to become compliant with the regulations in force. The course covers gas and dust explosion theory, DSEAR and ATEX regulations, ignition theory, hazardous area classification, risk assessment and protection concepts.

Key topics

- theory of explosions
- the ATEX user & equipment directive
- DSEAR compliance
- ignition theory
- hazardous area classification compliance of dust, gas & vapours
- overview of protection concepts (electrical and non-electrical)
- installations in potentially explosive atmospheres
- inspection and maintenance requirements
- explosion protection & mitigation
- previous accident & case studies
- anecdotal examples of how not to do it!
- Structured Risk Assessment Method (SCRAM)

Who will benefit

- those who are responsible for industrial premises that fall under the DSEAR(UK)/ ATEX (EU) regulations
- engineers who are responsible for designing new process plant and maintaining existing installations
- OEMs who are required to design equipment and process according to the ATEX directive

Course director

Dave Price, GexCon

Dates

12–13 March 2013
14–15 May 2013
17–18 September 2013
26–27 November 2013

Location

Skelmersdale, UK
Skelmersdale, UK
Skelmersdale, UK
Skelmersdale, UK

Fees

IChemE member – £835.00 + VAT
Non-member – £925.00 + VAT

Contact

Dave Price, GexCon, UK

Tel: +44 (0)1695 726565, Fax: +44 (0)844 056 0506

Email: dave.price@gexcon.com

www.gexcon.co.uk

Fundamentals of Process Safety

Recent and historical incidents have highlighted the importance of having a clear understanding of the principles of process safety management throughout an organisation. This must include staff at all levels from board members through engineers and other technical staff to plant and shift managers and supervisors. This intensive course covers the fundamentals and aims to provide an understanding of the key principles of process safety and its management.

Objectives

At the end of the course delegates should achieve the following key learning outcomes:

- understand the human, environmental and business consequences of poor process safety
- be aware of and understand the key factors influencing the basis for process safety
- understand the hazards associated with process plant and how the risks can be controlled
- understand the key process safety requirements at each stage in the life cycle of process plant from conceptual design through to operation, maintenance and modification
- understand the ways in which their work depends on the knowledge and expertise of others (ie interdependency and the need for overall organisational process safety management competence)
- understand their own limitations and know how to acquire further knowledge and understanding of process safety management

Delegates who pass the assessment will receive an IChemE pass certificate in the *Fundamentals of Process Safety*.

Who will benefit

- managers, supervisors, engineers and others involved in the design, operation, modification or maintenance of major hazard or other process plant, including safety personnel
- young chemical engineers en route to achieving chartered status
- anyone who would like to develop an understanding of process safety

Course directors

UK:	Gary Pilkington, APEX Process Safety Ltd
Malaysia:	Joe Eades, Ispanan Training Pte Ltd and Terry Booth
Australia:	Steve Cooper, Worley Parsons
New Zealand:	Paul Fetoe, Safety Solutions Ltd

Dates

8–12 April 2013
17–21 June 2013
tbc
12–16 August 2013
14–18 October 2013
14–18 October 2013
tbc

Location

Perth, Australia
Aberdeen, UK
Kuala Lumpur, Malaysia
New Plymouth, New Zealand
Grimsby, UK
Brisbane, Australia
Miri, Malaysia

Fees

IChemE member–
£1500.00 + VAT / $3300.00 (GST inc) /
RM4,500.00 + VAT / NZD$2,995 incl GST

Non-member–
£1600.00 + VAT / $3800.00 (GST inc) /
RM5,000.00 + VAT / NZD$3,201 incl GST

For UK and Malaysian courses contact

Courses department, IChemE, UK

Tel: +44 (0)1788 578214, Fax: +44 (0)1788 560833
Email: courses@icheme.org
www.icheme.org/fps
www.icheme.org/fpsmal

For Australian and New Zealand courses contact

Courses department, IChemE, Australia

Tel: +61 (0)3 9642 4494, Fax: +61 (0)3 9642 4495
Email: austcourses@icheme.org
www.icheme.org/fpsperth
www.icheme.org/fpsbris
www.icheme.org/fpsnz

"An excellent course for understanding the fundamentals of process plant safety"

Azmi Mohd Sheriff, Imperial College London

"The course will be able to provide sufficient knowledge about process safety to all levels of people."

Abdullah Side, Petronas

"Showed me what I know, addressed gaps and put it all together."

Karen Jacka, GL Noble Denton

Fundamentals of Process Safety Management

Recent and historical incidents have highlighted the importance of having a clear understanding of the principles of process safety management throughout an organisation. This must include staff at all levels from board members through engineers and other technical staff to plant and shift managers and supervisors. This intensive course covers the fundamentals and aims to provide an understanding of the key principles of process safety and its management.

Objectives

At the end of the course delegates should achieve the following key learning outcomes:

- understand the human, environmental and business consequences of poor process safety
- be aware of and understand the key factors influencing the basis for process safety
- understand the hazards associated with process plant and how the risks can be controlled
- understand the key process safety requirements at each stage in the life cycle of process plant from conceptual design through to operation, maintenance and modification
- understand the ways in which their work depends on the knowledge and expertise of others (i.e. interdependency and the need for overall organisational process safety management competence)
- understand their own limitations and know how to acquire further knowledge and understanding of process safety management

Delegates who pass the assessment will receive an IChemE pass certificate in the *Fundamentals of Process Safety Management*.

Who will benefit

- managers, supervisors, engineers, safety personnel and others involved in the design, operation, modification or maintenance of major hazard or other process plant
- young chemical engineers en route to achieving chartered status
- anyone who would like to develop an understanding of process safety

Course directors

Rod Prior, consultant and Nigel Coni, consultant

Dates

6–10 May 2013
4–8 November 2013

Location

Boksburg, South Africa
Boksburg, South Africa

Fees R12000.00

Contact Rod Prior

Tel: +27 (0)82 554 0010, Fax: +27 (0)11 453 2156

Email: r.prior@mweb.co.za

www.icheme.org/fpsm

Fundamentals of Process Safety – including Food Processing Modules

Recent incidents have highlighted the importance of having a clear understanding of the principles of process safety management throughout the organisation. This needs to include staff at all levels from board members through to engineers and other technical staff to plant and shift managers and supervisors. This intensive course covers the fundamentals and aims to provide an understanding of the key principles of process safety and its management.

Key topics

At the end of the course delegates should achieve the following key learning outcomes:

- understand the consequences of poor process safety (human, environmental and business consequences)
- be aware of and understand the key factors influencing the basis for process safety
- understand the hazards associated with process plant and how the risks can be controlled
- understand the key process safety requirements at each stage in the life cycle of process plant from conceptual design through to operation, maintenance and modification
- understand the ways in which their work depends on the knowledge and expertise of others (ie interdependency and the need for overall organisational process safety management competence)
- understand their own limitations and know how to acquire further knowledge and understanding of process safety management

Delegates who pass the assessment will receive an IChemE pass certificate in the *Fundamentals of Process Safety*.

Who will benefit

- Managers, supervisors, engineers and others involved in the design, operation, modification or maintenance of major hazard or other process plants
- young chemical engineers en route to achieving chartered status
- anybody else, including safety personnel, who would like to develop an understanding of process safety

Course directors

Paul Feltoe and Colin Feltoe, Safety Solutions

Dates

18–22 March 2013

Location

Hamilton, New Zealand

Fees:

IChemE member – NZD$2,995 incl GST

Non-member – NZD$3,200 incl GST

Contact:

Courses department, IChemE, Australia

Tel: +61 (0)3 9642 4494, Fax: +61 (0)3 9642 4495

Email: austcourses@icheme.org

www.icheme.org/fopsfood

Fundamentals of Process Safety (Nuclear)

Recent and historical incidents have highlighted the importance of having a clear understanding of the principles of process safety management throughout an organisation.This needs to include staff at all levels from board members through engineers and other technical staff to plant and shift managers and supervisors. This intensive course covers the fundamentals of process safety, related to nuclear facilities and aims to provide an understanding of the key principles of safety.

Objectives

At the end of the course delegates should achieve the following key learning outcomes:

- understand the hazards of the nuclear industry and how the risks can be controlled
- be aware of and understand the key factors influencing the basis for process safety
- understand the key process safety requirements at each stage in the life cycle of process plant from conceptual design through to operation, maintenance and modification
- understand the consequences of poor process safety
- understand the ways in which their work depends on the knowledge and expertise of others (ie interdependency and the need for overall organisational process safety management competence)
- understand their own limitations and know how to acquire further knowledge and understanding of process safety management
- need for understanding of the safety case and how it should be the basis of decisions
- importance of authority and accountability

Delegates who pass the assessment will receive an IChemE pass certificate in the *Fundamentals of Process Safety (Nuclear)*.

Who will benefit

- managers, supervisors, engineers and others involved in the design, operation, modification or maintenance of nuclear related process plant
- chemical engineers and scientists en route to achieving chartered status
- anybody else, including safety personnel, who would like to develop an understanding of process safety related to the nuclear industry: safety case authors; internal inspectors; safety analysts and regulators

Course director

Bob Skelton, Cambridge University

Dates

4–8 November 2013

Location

Preston, UK

Fees

IChemE member – £1500.00 + VAT
Non-member – £1600.00 + VAT

Contact

Courses department, IChemE, UK

Tel: +44 (0)1788 578214, Fax: +44 (0)1788 560833

Email: courses@icheme.org

www.icheme.org/nps

Gas Explosion Hazards on Offshore and Onshore Facilities

This course will address all aspects of hazards associated with vapour cloud explosions (VCEs): ignition processes, release and dispersion, explosion mechanisms, blast loads and modeling of all these aspects.

Objectives

At the end of the course, delegates should achieve the following key learning outcomes:

- understand the basics and important parameters governing vapour cloud explosions (VCEs)
- be aware of offshore release and accident statistics and some important offshore accidents
- understand the accident chain of events and the important parameters affecting the gas release and dispersion
- understand the various preventive measures to reduce the occurrence of accidents and the various mitigation and control techniques to reduce gas explosion consequences
- learn the various explosion modelling techniques that may be applied and understand the importance of using advance 3D modelling for gas explosion analyses
- learn the various gas explosion analyses methodologies and when they may be applied
- understand how gas explosion loads can be integrated with the responses of structures

Who will benefit

- safety engineers, managers, supervisors, and other personnel involved in the design, operation or modification of an offshore oil and gas facility (platforms, FPSOs, etc)
- accident investigators
- anyone who would like to develop an understanding of gas explosion safety

Course director

Kees van Wingerden, GexCon AS
Dave Price, GexCon, UK
Ronan Abiven, GexCon Consulting

Dates

24–25 September 2013
26–27 September 2013

Location

Grimsby, UK
London, UK

Fees

IChemE member – £1000.00 + VAT
Non-member – £1100.00 + VAT

Contact

Courses department, IChemE, UK

Tel: +44 (0)1788 578214, Fax: +44 (0)1788 560833
Email: courses@icheme.org
www.icheme.org/gaslon
www.icheme.org/gasgrm

Hazard Study Awareness

A hazard study is a team-based exercise and the quality of the result is highly dependent on the standard of leadership and the contribution of study team members. Whilst the need for the study leader to be suitably trained and experienced is well recognised, the study will be greatly enhanced by team members who are fully aware of their role and contribution.

This practical course is aimed at providing a demonstration that delegates have received suitable training, to be followed up by appropriate on-the-job experience.

Key topics

- the range of hazard study techniques available and how these fit into a typical project programme
- key assumptions and limitations of hazard studies
- the role of hazard studies in the hazard study process
- problems that can arise during hazard studies and how the team can help to resolve them
- related topics such as inherent safety, risk assessment, instrumented protective systems and human factors

Who will benefit

- project managers/engineers
- chemical and process engineers
- plant supervisors/operators
- chemists
- SHE advisors
- functional engineers, eg C/E, mechanical

Course director

Graeme Ellis, ABB Consulting

Dates

29 January 2013
13 June 2013
7 November 2013

Location

Manchester, UK
Aberdeen, UK
Grimsby, UK

Fees

IChemE member – £550.00 + VAT
Non-member – £600.00 + VAT

Contact

Jackie Kendall, ABB Consulting, UK

Tel: +44 (0)1642 372121,
Fax: +44 (0)1642 372296

Email: jackie.kendall@gb.abb.com

www.abb.com

HAZOP – Applied Hazard and Operability Study

This course provides understanding of the common causes of incidents and how a HAZOP study enables the recognition of such causes and leads to their elimination from the design or process. It includes simulation of a HAZOP study meeting, as well as substantial exercises and case studies to illustrate the HAZOP technique and ensure understanding of the procedure.

Key topics

- understanding the HAZOP methodology and terminology
- how and why HAZOP works
- understand how to follow the HAZOP procedure
- understand the roles of individuals within the HAZOP team
- learn how to challenge the expertise of other members of the HAZOP team, and to have your own expertise challenged
- learn to interpret a HAZOP record and understand why a recommendation was made

Who will benefit

This course is suitable for all personnel who are to take part in HAZOP study meetings, or are expected to interpret and implement the findings of a HAZOP study. Both junior and experienced personnel will benefit.

Course director, UK

Steve Witty, Jenbul Associates, UK

Course director, Australia

Steve Witty, Jenbul Associates, UK

Dates

10–12 June 2013
tbc

Location

Manchester, UK
Australia

Register your interest: austcourses@icheme.org

Fees

IChemE member – £1350.00 + VAT

Non-member – £1450.00 + VAT

Contact

Courses department, IChemE, UK

Tel: +44 (0)1788 578214, Fax: +44 (0)1788 560833

Email: courses@icheme.org

www.icheme.org/appliedhazard

HAZOP Study for the Offshore Oil and Gas Industry

A course specifically tailored to meet the needs of the offshore oil and gas industry, based around well-established, integrated modules, to provide effective training in the HAZOP technique for both team leaders and team members. As well as presentations covering all the essential aspects of the method, there are workshops on HAZOPs for continuous processes, sequential operations and computer-controlled plant. The relationship between HAZOP, other hazard identification methods and hazard studies is also discussed. Participants with experience in HAZOP should consider applying as a team leader, whilst newcomers to the technique will benefit from attending as a team member.

Key topics

- principles and methodology of a HAZOP study and its practical application
- key features which determine the effectiveness of a HAZOP study in exposing relevant hazards and operability problems
- factors that control the efficient management of studies and the use of resources
- the importance of pre-planning studies
- the role of a detailed HAZOP study as one of a series of process hazard studies
- improvement in effectiveness as team leader or team member through experience, knowledge and understanding gained from group work
- role and importance of recording in HAZOP studies

Who will benefit

- experienced HAZOP team members who are moving on to team leadership
- those who need to refresh and update their HAZOP experience
- engineers and other technical personnel who are new to HAZOP study
- those with safety and project management responsibilities

Course director

Phil Aspinall, Arcadis

Dates

19–22 March 2013

Location

Aberdeen, UK

Fees UK

IChemE member – £1400.00 + VAT
Non-member – £1500.00 + VAT

Contact

Courses department, IChemE, UK

Tel: +44 (0)1788 578214, Fax: +44 (0)1788 560833

Email: courses@icheme.org

www.icheme.org/hazopoil

HAZOP Study for Team Leaders and Team Members

This well-established, integrated course uses examples drawn from a range of operations, including the petroleum, petrochemicals, fine chemicals and pharmaceutical industries, to provide effective training in the HAZOP technique for both team leaders and team members. As well as presentations covering all the essential aspects of the method, there are workshops on HAZOPs for continuous processes, sequential operations and computer-controlled plant. The relationship between HAZOP, other hazard identification methods and hazard studies is also discussed. Participants with experience in HAZOP should consider applying as a team leader, whilst newcomers to the technique will benefit from attending as a team member.

Key topics

- principles and methodology of a HAZOP study and its practical application
- key features which determine the effectiveness of a HAZOP study in exposing relevant hazards and operability problems
- factors that control the efficient management of studies and the use of resources
- the importance of pre-planning studies
- the role of a detailed HAZOP study as one of a series of process hazard studies
- improvement in effectiveness as team leader or team member through experience, knowledge and understanding gained from group work
- role and importance of recording in HAZOP studies

Who will benefit

- experienced HAZOP team members who are moving on to team leadership
- those that need to refresh and update their HAZOP experience
- engineers and other technical personnel who are new to HAZOP study
- those with safety and project management responsibilities

Course director UK

Phil Aspinall, Arcadis

Course director Australia

Robert Jorgensen, RKEJ Pty Ltd

Dates

26–28 February
18–20 June 2013
10–12 September 2013
12–15 November 2013

Locations

Brisbane, Australia
Melbourne, Australia
Perth, Australia
Manchester, UK

Fees

IChemE member – £1400.00 + VAT / $3300.00 (GST inc)
Non-member – £1500.00 + VAT /$3800.00 (GST inc)

Contact

Courses department, IChemE, UK

Tel: +44 (0)1788 578214, Fax: +44 (0)1788 560833
Email: courses@icheme.org
www.icheme.org/hazopteam

Courses department, IChemE, Australia

Tel:+61 (0)3 9642 4494, Fax:+61 (0)3 9642 4495
Email: austcourses@icheme.org
www.icheme.org/hazopperth
www.icheme.org/hazopbris
www.icheme.org/hazopmel

"Instilled confidence as well as competence. I understood that I was being informed by a seasoned expert."

James Thomson, Rolls Royce

"The use of workshops was excellent as were the presentations."

William Glass, BakerRisk Europe

"Maybe the best course I've ever followed."

Henk Deuling, Energy Research Centre

HAZOP Study, Leadership and Management

A successful HAZOP study is only possible if the study is effectively led. This course gives greater understanding of the HAZOP methodology and why it works. You will use case studies to understand the requirements of HAZOP leadership, have the opportunity to fulfil roles of leader and scribe during workshops and to practise guiding a team through the HAZOP process.

Objectives/key topics

- how to prepare for a HAZOP study meeting – including defining the scope of the study and choosing of the team
- choosing of nodes (parts of the drawing or operation for HAZOP study)
- estimating the programme requirements for the successful completion of a HAZOP study
- motivating the team, and keeping them on task
- avoiding common problems encountered during HAZOP study meetings
- formulating the HAZOP study report
- understand the team leader's role in the implementation of recommendations and the management of the process

Who will benefit

This course is suitable for personnel who are required to lead HAZOP studies. They must have experience as a team member and understand the HAZOP methodology. Experience as a HAZOP scribe would also be useful.

Course director

Steve Whitty, Jenbul Associates, UK

Dates

16–18 April 2013
9–11 September 2013
18–20 November 2013

Location

London, UK
Rugby, UK
London, UK

Fees

IChemE member – £1400.00 + VAT
Non-member – £1500.00 + VAT

Contact

Courses department, IChemE, UK

Tel: +44 (0)1788 578214, Fax: +44 (0)1788 560833
Email: courses@icheme.org
www.icheme.org/hazopstudy

Human Factors in Health and Safety

There is an increasing emphasis on the importance of managing 'human factors' to achieve improved safety and business performance in the chemical process industries. Major accidents, including those at Texas City and Buncefield have once again highlighted the importance of addressing this aspect of performance. However, many of the safety and operational professionals charged with managing human factors have no formal qualifications or training in the behavioral sciences. To help address this gap, The Keil Centre and IChemE have organised this 1-year development programme.

Objectives

The programme builds upon the needs identified in the process industries, namely:

- content covering human factors in process safety, health and safety generally, with links to other aspects of business performance
- a modular course design, with short residential events spread over time, also providing networking opportunities with likeminded professionals
- consultancy skills development to help implement human factors solutions

The modules

- Module 1 – An Introduction to Human Factors
- Module 2 – Human Reliability and Failure
- Module 3 – Organisational Issues
- Module 4 – Human Factors and Design

Who will benefit

- internal human factors advisors/focal points
- operations managers
- HSE advisors and specialists
- industry regulators

who want a thorough grounding in the subject matter, access to practical research-based tools and approaches, and discussion in small groups with acknowledged industry experts.

Course director

Martin Anderson, specialist inspector, Offshore Division, UK HSE

Andy Brazier, consultant

Janette Edmonds, director, The Keil Centre

Bill Gall, consultant

Ian Hamilton, partner, ERM

Ronny Larnder, founder, The Keil Centre

Paul Leach, lead trainer, Greenstreet Berman

Rob Miles, principal specialist inspector: human factors, UK HSE

Johnny Mitchell, The Keil Centre

Richard Scaife, director, The Keil Centre

Charles Shoesmith, consultant

John Wilkinson, principal human factors consultant, The Keil Centre

Dates	Location
Organisational Issues	16–17 January 2013 Schiphol, The Netherlands
An Introduction to Human Factors	6–7 February 2013, Perth, Australia
Human Factors and Design	22–23 May 2013, Edinburgh, UK
Human Reliability and Failure	29–30 May 2013, Perth, Australia
Organisational Issues	4–5 September 2013, Perth Australia
Human Factors and Design	5–6 February 2014, Perth, Australia

Fees

£1,150.00 + VAT per module
£1,000.00 + VAT for the series of 4 modules

AUD$ 2,200 + GST
AUD$ 2,000 + GST for the series of 4 modules

Contact

Courses department, IChemE, UK

Tel: +44 (0)1788 578214, Fax: +44 (0)1788 560833

Email: courses@icheme.org

Courses department, IChemE, Australia

Tel: +61 (0)3 9642 4494, Fax: +61 (0)3 9642 4495

Email: austcourses@icheme.org

www.icheme.org/humanfactors

IChemE Forms of Contract

IChemE's *Forms of Contract* are drafted as performance-based contracts for the design and construction of process plants and other output-based projects. There are two suites of contract forms: the UK forms and the international forms. This course provides a detailed examination of both suites: their approach to risk and payment, their structure, how they govern work from initial requirements through design to fully commissioned and operational plant, and party liabilities.

Key topics

- the structure of a contract under each suite and the differences
- the conditions of contract – a detailed examination of the life of a contract
- the agreement and the schedules
- risk and payment mechanisms – price, cost, target cost
- subcontracting
- liabilities
- dispute resolution

Who will benefit

Those who will prepare and tender a contract using the forms or those who will manage such a contract – as a client, consultant or contractor, including:

- project and contract managers
- engineers, quantity surveyors, contract administrators
- clients', contractors' and consultants' personnel
- graduate engineers

Course director

Gordon H Bateman, consultant and chair of IChemE's contracts drafting committee

Dates

19–20 June 2013

Location

London, UK

Fees

IChemE member – £900.00 + VAT
Non-member – £950.00 + VAT

Contact

Courses department, IChemE, UK

Tel: +44 (0)1788 578214, Fax: +44 (0)1788 560833

Email: courses@icheme.org

www.icheme.org/foccourse

Introduction to Process Safety

Developed primarily for those who are not in a process safety line management position but whose activities influence the process safety performance of their organisation. This can include staff engaged in corporate, R&D, commercial, HR and IT activities. The course will provide a broad understanding of the tools and problem solving techniques used in process safety.

Key topics

At the end of the course, delegates should achieve the following key learning outcomes:

- understand what process safety is and the human, environmental and business consequences of poor process safety
- have applied a simple model for analysing process safety incidents
- have a broad understanding of process safety hazards and risks
- learnt how process safety management is organised and what are the elements of a modern process safety management system
- understand their role in promoting process safety

Who will benefit

- anyone involved in a role which does not have direct line responsibility for process safety
- anyone who would like to develop a broad understanding of process safety

Course directors

Gary Pilkington, APEX Process Safety Ltd
Steve Cooper, Worley Parsons

Dates

24–25 April 2013
14–15 May 2013

Locations

Manchester, UK
Brisbane, Australia

Fees

IChemE member - £900.00 + VAT / $1790 (GST inc)
Non-member - £1000.00 + VAT / $2000 (GST inc)

Contact

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Email: courses@icheme.org

www.icheme.org/ips

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Email: austcourses@icheme.org

www.icheme.org/itps

Layer of Protection Analysis (LOPA)

LOPA is a semi-quantitative tool for analysing and assessing risk that looks at the safeguards on a process plant to see if the protection provided is adequate for known hazards.

This course covers basic and more advanced methodology of LOPA and the detailed stages of its application. Participants are shown how significant scenarios are categorised and tolerable frequencies assigned for identified hazardous events. They are shown how to assign risk categories and hence determine the number of independent protection layers (IPLs) that should be in place. The specification and requirements for a protection layer to be accepted as an IPL are discussed. All the essential steps in this method are practiced in workshops, including the use of software tools in LOPA.

Key topics

- the basic methodology of LOPA
- how to decide if a process needs a safety instrumented system (SIS)
- if yes, what safety integrity level (SIL) do they need?
- how to define an independent protection layer (IPL)
- how to implement a process to manage these systems through the life cycle of an installation
- toolbox demonstration and workshops based on simple but realistic examples

Who will benefit

- production engineers
- process design engineers
- project engineers
- process programmers and instrument control designers

Course director UK

Richard Gowland, technical director, European Process Safety Centre (EPSC)

Course director Australia

Paul Feltoe, Safety Solutions Ltd

Dates

9–10 April 2013
21–22 May 2013
11–12 June 2013
18–19 September 2013

Locations

New Plymouth, NZ
Manchester, UK
Perth, Australia
Manchester, UK

Fees

IChemE member – £1150.00 + VAT / A$1790 (GST inc)
Non-member – £1250.00 + VAT / A$2000 (GST inc)

Contact

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Tel: +44 (0)1788 578124, Fax: +44 (0)1788 560833
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www.icheme.org/lopa

Courses department, IChemE, Australia

Tel: +61 (0)3 9642 4494, Fax: +61 (0)3 9642 4495
Email: austcourses@icheme.org
www.icheme.org/lopanz
www.icheme.org/lopaperth

Managing Deterioration of Plant Equipment

This course provides guidance on how to achieve safe and reliable operation of process equipment by design and beyond its design life. An effective plant integrity system delivers benefits for safety, reliability and operational performance whilst optimising maintenance and inspection costs. Implementing such a system requires proactive management of deterioration mechanisms and a 'whole team' approach, as equipment integrity is not solely the responsibility of the maintenance and inspection functions. The course covers the essential elements of an equipment integrity management system including legislative compliance.

Key topics

- integrity management
- forms of corrosion
- forms of deterioration
- focused inspection
- non-metallics
- non-destructive testing
- pressure testing
- fitness for service
- defect remediation
- repair philosophy
- auditing programmes
- asset life plans

Who will benefit

Anyone who is involved in the development and implementation of integrity management strategy and procedures, particularly involving ageing plant.

Course director

Laza Krstin, ABB Consulting

Dates

16–17 April 2013
26–27 November 2013

Location

York, UK
Edinburgh, UK

Fees

IChemE member – £1250.00 + VAT
Non-member – £1350.00 + VAT

Contact

Jackie Kendall, ABB Consulting

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Email: jackie.kendall@gb.abb.com
www.abb.com

New to Management

A manager must display skills and behaviours which are very different from those required of a member of a team – and the transition needed to succeed is probably greater for someone moving into their first managerial role than it will be at any future point in their career. Unfortunately for many new managers – and their employers – the training they receive does not recognise the fundamental changes they need to make. With guidance however, most new managers can quickly understand and start to put into practice the necessary skills and behaviours.

This interactive course is tailored specifically for chemical engineers moving from a hands-on, technical role to their first management position. It addresses the skills shift required when making the transition to team leader and focuses on the skills and behaviours needed to lead a team effectively.

Key topics

- the key shifts in behaviour and attitude that are essential in order to be a successful manager
- specific skill areas: time management, effective communication, delegation, motivation, providing effective feedback, developing people
- action planning – a clear individual action plan to link the course learning back to their workplace

Who will benefit

- anyone currently in a first level management position
- staff who lead teams but might not yet have a formal management position
- staff who will shortly be promoted into a management position

Course director

Fiona Carter, CEng, MIChemE, consultant

Dates

17–18 October 2013

Location

London, UK

Fees

IChemE member – £900.00 + VAT
Non-member – £950.00 + VAT

Contact

Courses department, IChemE, UK

Tel: +44 (0)1788 578214, Fax: +44 (0)1788 560833
Email: courses@icheme.org
www.icheme.org/ntm

Particle Technology – The Science of Powder Handling and Processing

Delivered by experts with many years experience in the field, participants will appreciate the practical way in which particle technology principles are put across in a relaxed atmosphere. The programme, though intensive, provides time for participants and lecturers to meet and interact. This course aims to provide participants with a broad understanding of the fundamentals of particle technology with an emphasis on basic concepts and practical problems.

Key topics

- challenges of powder handling and processing
- characterisation of particles and powders and sampling of powders
- mixing and segregation of powders
- storage, flow, feeding and metering of powders
- pneumatic conveying
- gas-particle separation – gas cyclones and filters
- fluidisation
- fire and explosion hazards of fine powders
- size enlargement – granulation

Who will benefit

Those who have recently become involved in the handling and processing of particles and powders; those who experience problems in handling and processing of particles and powders.

Industries expected to benefit include pharmaceutical, food processing, chemical, oil, mineral processing, metallurgical, detergent, cosmetics and related industries.

Course director

Michael Griffiths, managing director, Particle & Surface Sciences, Australia

Dates

19–21 February 2013

Locations

Melbourne, Australia

Fees

IChemE member – A$3,300 inc GST
Non-member – A$3,800 inc GST

Contact

Courses department, IChemE, Australia

Tel: +61 (0)3 9642 4494, Fax: +61 (0)3 9642 4495
Email: austcourses@icheme.org
www.icheme.org/pt

Practical Aspects of Process Control and Instrumentation

This course gives a practical introduction to the principles of measurement and control of process plant. It is a hands-on course and participants will have the opportunity to explore the set-up and tuning of control loops using simulation and other computer-based training packages.

Key topics

- principles of control
- measurement principles
- PID control
- control tuning
- CBT exercises
- control techniques
- computer control systems – DCS, SCADA, PLCs
- control valves

Who will benefit

- young graduates who require a practical introduction to measurement and control systems on process plant
- anyone working in the process industries who would like to understand the techniques used in measurement and control and who have not had the opportunity to learn about them before

Course director

Mark Dixon, ESD Simulation Training

Locations, dates and fees

Aberdeen, UK	4–6 March 2013 £2024.00 + VAT
Calgary, Canada	14–16 May 2013 C$3315 plus taxes
Houston, USA	23–25 July 2013 US$3315 plus taxes
Aberdeen, UK	11–13 November 2013 £2024.00 + VAT

Contact

Emily Wright, ESD Simulation Training, UK

Tel: +44 (0)1467 634934, Fax: +44 (0)1467 634949
Email: emily.wright@esd-simulation.com
www.esd-simulation.com

Practical Distillation Technology

Recognised specialist Henry Kister presents this comprehensive coverage of distillation technology, with particular emphasis on the problems that can occur and how to solve them. This is an excellent opportunity to develop a working knowledge of key techniques that can promote trouble-free operation and reduce distillation cost.

Key topics

- trouble-shooting a distillation column and determining what may cause poor performance
- evaluating existing performance and developing new designs
- validating your tower simulation
- how to avoid common causes of capacity bottlenecks, tray damage, down comer sealing problems, packed tower distributor malfunctions and many other operating difficulties
- de-bottlenecking a column to improve capacity and/or separation
- controlling and operating a distillation column

Who will benefit

Engineering and supervisory personnel who are involved in operating, designing, trouble-shooting, de-bottlenecking, or start-up of distillation processes and equipment.

Course director

Henry Z Kister, FIChemE, Fluor

Dates

7–9 October 2013

Location

London, UK

Fees

IChemE member – £1400.00 + VAT
Non-member – £1500.00 + VAT

Contact

Courses department, IChemE, UK

Tel: +44 (0)1788 578214, Fax: +44 (0)1788 560833
Email: courses@icheme.org
www.icheme.org/pdt

Pressure Relief – A Proven Approach

Pressure relief can be caused by a number of events including fire, reaction runaway, thermal expansion and process abnormality. Incorrect design of pressure relief systems continues to result in major safety and environmental incidents with resultant business consequences. Incidents can occur as a result of failure to provide relief, inadequate relief capacity, disposal system failure or incorrect design and installation. A structured approach to pressure relief design is vital to ensure protection of plant from excessive over and under pressure. This course is based on ABB's extensive experience of design installation and maintenance of relief systems, and covers a state-of-the-art methodology, based on a life cycle approach to pressure relief. The format consists of two core days with a third specialist day.

Key topics

- when a relief system is required
- how to determine a worst-case relief duty and calculate the required relief rate for single- and two-phase cases
- the different types of relief systems and relief devices and how to size and select them
- how to design a relief system
- what is important in relief system design
- how plant modification can affect relief systems

Who will benefit

Anyone involved in the design and operation of relief systems.

Course director

Peter Hunt, ABB Consulting

Dates

19–21 March 2013
11–13 June 2013
17–19 September 2013
5–9 November 2013

Location

Bristol, UK
Liverpool, UK
York, UK
Edinburgh, UK

Fees

IChemE member – £1700.00 + VAT
Non-member – £1850.00 + VAT

Contact

Deborah Law, ABB Consulting, UK

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www.abb.com

Production, Process and Emergency Systems on Oil and Gas Installations

This intensive course offers both an introduction to, and a comprehensive overview of, the production, processing and emergency systems on offshore facilities.

Key topics

- hydrocarbon engineering
- disposals
- reservoir characteristics and well fluids
- reservoir drive and artificial lift
- well design
- oil and gas separation
- produced water
- gas compression and treatment
- water injection
- utility systems
- emergency shutdown systems
- fire and gas systems

Who will benefit

Engineers who have made a career move to the regulatory bodies which oversee the industry and process personnel who may be transferring to a primary production area.

Course director

Bob Hodder, ESD Simulation Training

Locations, dates and fees

Aberdeen, UK	18–20 February 2013 £2024.00 + VAT
Darwin, Australia	6–8 March 2013 A$3427 + GST
Perth, Australia	18–20 March 2013 A$3427 + GST
Aberdeen, UK	8–10 May 2013 £2024.00 + VAT
Aberdeen, UK	23–25 September 2013 £2024.00 + VAT
Perth, Australia	6–8 November 2013 A$3427 + GST
Aberdeen, UK	2–4 December 2013 £2024.00 + VAT

Contact

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Tel: +44 (0)1467 634934, Fax: +44 (0)1467 634949

Email: emily.wright@esd-simulation.com

www.esd-simulation.com

Project Engineering

This course provides an understanding of the project lifecycle from concept, through front end design, detailed design, construction management, commissioning and finally final handover and plant start-up activities. The objective is to provide a step-by-step description and illustration of a project's lifecycle in the chemical industry. Beginning with an introduction to the role, it then follows with life in an engineering house, proposals and contract types, greenfield projects, estimating (cost and resource) tools, planning and scheduling, cut and carve projects, construction, commissioning leading to plant start-up and operation.

Key topics

- plan and schedule activities and resources for a project
- determine suitable contract types for different project types
- construct a detailed proposal
- organise teams and roles for project engineering
- understand the role of the project engineer in the different stages of a project lifecycle for different project types
- use tools for various project engineering tasks
- understand the fundamentals required in the construction and handover of a plant
- understand the fundamentals required to commission (start-up) a plant

Who will benefit

- all industry sectors including oil and gas, petrochemical, pharmaceutical, design and contracting and consultancy
- chemical engineers who have a background in operating companies looking to understand the project industry (how the EPC contractors work)
- young chemical engineers en route to achieving chartered status
- chemical engineers who want to learn and understand a broader perspective and how the chemical engineer fits into the project team at different stages of the project lifecycle

Course director

Joe Eades, Ispahan Pty Ltd, Terry Booth

Dates

5–7 August 2013

Location

Melbourne, Australia

Fees

IChemE member – A$1800.00 inc GST
Non-member – A$1900.00 inc GST

Contact

Course department, IChemE, Australia

Tel: +61 (0)3 9642 4494, Fax: +61 (0)3 9642 4495

Email: austcourses@icheme.org

www.icheme.org/projeng

SIL Determination and Hazard Assessment

This course is designed for those who need to understand the causes and sequence of failure that can lead to significant hazardous events occurring, and be able to identify the key contributors to the level of risk. It discusses how to quantify hazardous event likelihood using a range of techniques, in order to assess whether the level of risk is sufficiently low and, if not, where to focus attention for cost-effective improvement. It also considers instrumented protective systems and other risk reduction measures, and assesses their actual benefit.

Key topics

- logical analysis using fault tree techniques for scenarios leading to hazardous events
- use of data and their application to predict the likelihood of a hazardous event
- development of practical hazard criteria
- handling of dependent or common mode failures
- basic human error assessment
- applying basic hazard assessment in a variety of situations to help in making more effective decisions
- IEC 61508 and IEC 61511 – an overview of their key aspects and their importance in the assessment of risk reduction

Who will benefit

- process design engineers
- electrical, control and instrument engineers
- safety managers and advisers
- works or technical managers with responsibility for managing risk
- leaders of HAZOP studies

Course director

Alan King, ABB Consulting

Dates

20–24 May 2013
11–15 November 2013

Location

Cheshire, UK
Edinburgh, UK

Fees

IChemE member – £1990.00 + VAT
Non-member – £2150.00 + VAT

Contact

Jackie Kendall, ABB Consulting, UK

Tel: +44 (0)1642 372121, Fax: +44 (0)1642 372296
Email: jackie.kendall@gb.abb.com
www.abb.com

SIL Determination and IEC 61508/61511

This is a practical training course in the appreciation of safety integrity level (SIL) determination to the technical requirements of IEC 61508/61511. It is aimed at responsible managers, engineers and designers, and provides an introduction to the standard, the basics of risk, methodologies for SIL determination, and some of the important factors involved including common pitfalls.

Key topics

- introduction to the standard and its background
- IEC 61508/61511 basic principles refresher
- the concept and importance of SIL determination
- risk and criteria
- hazard identification
- risk graph approach
- introduction to demand trees and fault trees
- equipment failure and data
- human error
- dependency demands
- comparison of SIL determination tools
- introduction to the CASS scheme

Who will benefit

- process design engineers
- electrical, control and instrument engineers and designers
- safety managers and advisors
- works or technical managers with responsibility for managing risk

Course director

Alan King, ABB Consulting

Dates

5–6 March 2013
12–13 June 2013
4–5 September 2013
27–28 November 2013

Location

Cheshire, UK
Edinburgh, UK
York, UK
Edinburgh, UK

Fees

IChemE member – £1050.00 + VAT
Non-member – £1130.00 + VAT

Contact

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Email: jackie.kendall@gb.abb.com
www.abb.com

What Every Engineer Should Know About Contracts

When managing projects, whether large or small, a clear understanding of the law of contract is essential. Failure to understand the basics can prove very expensive. This course explains, in simple terms, what engineering contracts are all about. Suitable for engineers of all disciplines, it provides an overview of the law of contract and of tort within which engineering and construction contracts are made and operate, as well as explaining why the standard forms of contract say what they say.

Key topics

- the law of contract (contract formation, terms, discharge, breach) and its application to engineering and construction work
- an outline of the tort of negligence
- risk allocation and its links with payment
- the essentials of engineering, construction and process plant contracts
- dispute resolution

Who will benefit

- project and contract managers
- contract administrators
- engineers and administrators
- consultants, consulting engineers, quantity surveyors
- sales and purchasing managers/personnel
- general managers
- graduate engineers

Course director

Gordon H Bateman, consultant and chair of IChemE's contracts drafting committee

Dates

1–2 May 2013
15–16 October 2013

Location

Rugby, UK
London, UK

Fees

IChemE member – £900.00 + VAT
Non-member – £950.00 + VAT

Contact

Courses department, IChemE, UK

Tel: +44 (0)1788 578214, Fax: +44 (0)1788 560833

Email: courses@icheme.org

www.icheme.org/contracts

"A brilliant course. I learnt so much and would highly recommend it to any engineer."

Sarah Kirby, Helius Energy

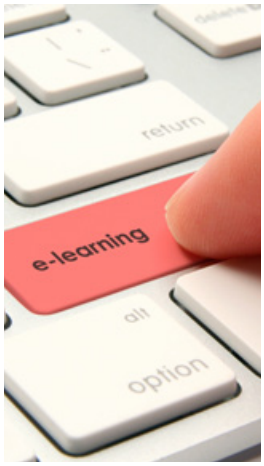
"A very insightful course in a subject that can cause engineers many difficulties."

Matthew White, Syngenta

"A very informative and well-presented course. Gordon obviously knows his stuff."

Chris Stevens, McDonald Stevens Associates

e-learning – a flexible way to learn new skills



HAZOP Study Training for Team Members

Fees

IChemE member – £650.00 + VAT
Non-member – £750.00 + VAT

Provides a similar level of training to the conventional courses but, because it is web-based, individuals can work through it in their workplace – or wherever they have internet access – and at a time when the training is most appropriate. It is designed for graduates from a relevant discipline, off-shore operations personnel, or those with considerable operational experience who expect to be joining a HAZOP team.

The course has been created in the Moodle software system, a popular framework in higher education, including the Open University. Our web site provides an introductory course for newcomers to Moodle.

Key topics

All the essential topics needed to understand the principles and practice of HAZOP study are included within the eight modules of the course. Each module covers a particular aspect, which include:

- basics and background to HAZOP study
- relationship to other hazard study methods
- application to continuous and to sequential processes
- recording HAZOP study
- essential features of leading and management of a study
- making decisions in HAZOP study
- a range of examples of increasing complexity

The time required is around 12–15 hours, roughly the equivalent of a two day full-time course.

To purchase e-learning courses or for more information:

Visit www.icheme.org/elearning or contact the sales team:

Tel: +44 (0)1788 534470
Fax: +44 (0)1788 560833
Email: sales@icheme.org

The following courses can be accessed as many times as you like over a period of 12 months.

They all include:

- a short introductory section
- descriptive texts and visual exercises
- quizzes to test understanding
- easy movement back and forward through the course
- glossaries to explain technical aspects
- book-marking for easy navigation and return

Fees

IChemE member – £95.00 + VAT
Non-member – £110.00 + VAT

Exothermic Reaction Hazards

Explains how seemingly simple changes in operating procedures, equipment design or process conditions/ chemistry can lead to loss or injury of personnel, plant and product.

Key topics

- batch and semi-batch accident statistics
- isothermal calorimetry
- worst credible maloperations and the undesired reaction
- worst credible maloperations and the basis of safety
- desktop methods of screening

Fire and Explosions

Aims to provide the skills necessary to identify and control the risk of fires and explosion hazards.

Key topics

- flammability of liquids and solids
- flammability of gases and vapours
- saturated vapour pressure
- flash point
- control of ignition sources for liquids and gases

Introduction to Fire Fighting Foam and How to Use Foam

Presents guidelines on conducting the most common foam concentrate and foam system tests that can be carried out either 'in the field' or at a specially constructed test centre.

Key topics

- introduction to foam
- foam sampling techniques
- foam concentrates tests and foam system tests
- design guides, approvals and standards
- foam systems and testing
- foam fire testing
- interpretation of foam test results

Occupational Health

Learn important techniques in the assessment of risk of exposure to hazardous chemicals.

Key topics

- how chemicals affect health
- routes of entry
- harmful effects
- hierarchy of control
- monitoring and occupational exposure limits
- local exhaust ventilation
- personal protective equipment

Pressure and Temperature Control

Learn how to enhance the use and maintenance of important elements of the process control system.

Key topics

- common forms of pressure measurement and devices
- pressure units of measurement
- temperature units of measurement and devices
- thermometers and thermocouples

Risk Assessment Techniques

Examines both the cost and consequences of risk and how it can be minimised.

Key topics

- regulatory requirements
- quantitative risk assessment
- Seveso II and US PSM standards
- assessing environmental risk
- qualitative risk assessment
- consequence analysis
- safety legislation
- the blast wave

Safer Maintenance

Provides training in planning, implementing and completing all types of maintenance in the safest possible manner.

Key topics

- legal requirements/pre-planning
- testing and monitoring
- use of contractors
- work permit issues
- isolation/decontamination
- reinstallation and recommissioning

Safety Auditing

Structured training in the full audit process and the value of auditing – aimed at anyone preparing to conduct or participate in a formal safety audit.

Key topics

- key objectives
- legislative criteria
- management criteria
- costs of accidents

Safety Management Systems

Introductory training in safety management for operators, contractors, engineers and management.

Key topics

- policy development
- self-assessment and regulation
- planning and implementation
- legislative requirements

Storage Tank and Bund Protection Systems

Training in how to protect against and prevent storage tank fires.

Key topics

- monitors for spill fires, storage tanks and bunds
- fixed foam pourer installations for cone roof storage tanks
- semi-subsurface protection of cone roof storage tanks
- subsurface protection of cone roof storage tanks
- foam pourer protection of open top floating roof tanks
- catenary system protection of open floating roof tanks
- coflexip system protection of open top floating roof tanks
- covered floating rook tanks

Registration form

For courses organised by IChemE

Complete this form and fax it to: +44 (0) 1788 560833. To register on any other course, contact the course organiser.

I wish to book a place on the.....

course, running on .....

I am a member of IChemE: ☐ Yes ☐ No membership number:.....

Last name: .....

First name: .....

Title (Dr/Mr/Miss/Mrs/Ms/Prof/Eur Ing): ..... Gender: ☐ Male ☐ Female

Work details – company: .....

EC VAT registration number: .....

Job title:..... Department: .....

Country:..... Post/zip code: .....

Address:.....

Town/city: ..... County/state:.....

Direct telephone:..... Direct fax:.....

Email (for pre-course correspondence): .....

Method of payment (payment must be received in full before the event date otherwise admission cannot be guaranteed)

☐ Cheque enclosed (made payable to Institution of Chemical Engineers).
Send to IChemE, accounts department, Davis Building, Railway Terrace, Rugby, Warwickshire, CV21 3HQ, UK

☐ Debit my credit/debit card: (payment in £ sterling only):

Cardholder name (as it appears on the card): .....

Billing address (if different from above): .....

.....

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☐ Visa ☐ Visa Debit ☐ MasterCard ☐ UK Maestro ☐ Solo ☐ AMEX

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Valid from date: ☐☐/☐☐ Expiry date: ☐☐/☐☐ Issue number: ☐ CVC code : ☐☐☐☐

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card or 4 digits on the front of AMEX)
This is mandatory for VISA and MasterCard

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Cancellation policy

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