

Course Catalogue 2014

Process Safety

Engineering
Project
Management

Creativity for
Chemical
Engineers

Safety
Culture

$1 + 2 = 3$

Carbon Footprinting

Human Factors in
Health and Safety

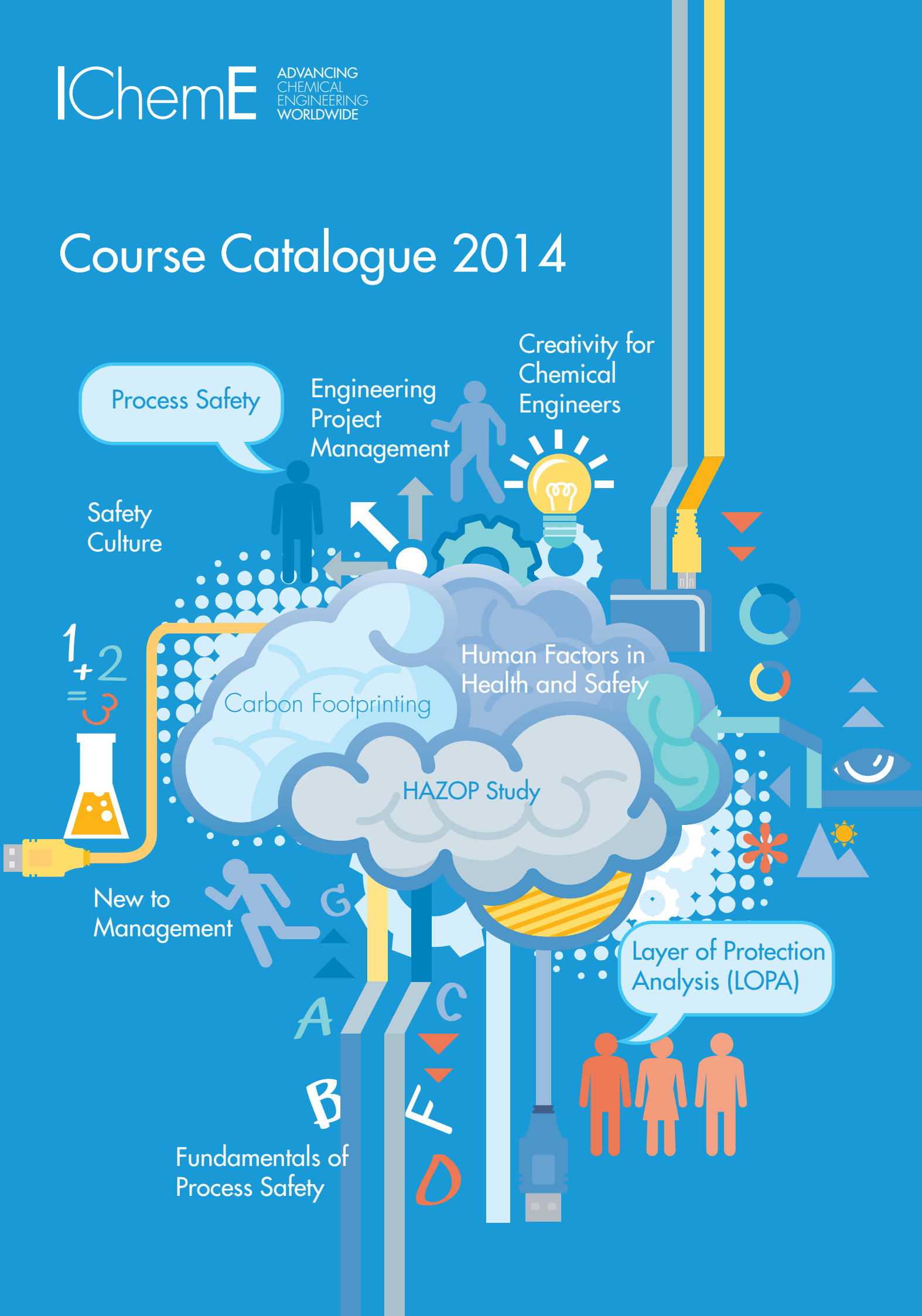
HAZOP Study

New to
Management

Layer of Protection
Analysis (LOPA)

Fundamentals of
Process Safety

A B C
D E



Plan your professional development for 2014



▶ Because chemical engineering matters...

IChemE is committed to supporting the professional development of chemical and process engineers worldwide.

Our comprehensive programme of training courses is delivered all over the world. We cover both technical and non-technical topics and we are a market leader in process safety training.

IChemE's training business is growing. Last year, we staged close to 50 open training courses and our in-company courses took place in Australia, Malaysia and the UK as well as developing markets such as Ghana, Egypt and Qatar.

Our in-company offer is a major strength with many organisations partnering with IChemE as their preferred international training provider. All new courses are developed and delivered by Chartered Chemical Engineers or equivalent, and undergo a rigorous peer-review process to ensure our high standards are met.

This year's catalogue features a wide range of courses but there are plenty more new ones under development so keep an eye out at www.icheme.org/courses or register for our mailing list at courses@icheme.org to learn about new offers right away.

And if you don't see what you're after here, get in touch. We're regularly asked to develop bespoke training programmes to meet the needs of industry and I'd be happy to hear from you.

Matt Stalker

IChemE head of communications, training and events

mstalker@icheme.org

In-company training

Most of our courses can also be run-house, at a time and place that suits you. Many organisations already partner with IChemE as their preferred international training provider.

If you have several colleagues interested in the same course, in-company training is a more cost-effective option, with the added advantage that the programme can be adapted to relate to your own operational processes.

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

CPD

IChemE wants to support its members in their professional development and we strongly encourage members of all grades to maintain an active approach to Continuing Professional Development (CPD) whether this is to maintain existing competencies or to develop new ones. Throughout this catalogue and for the first time in an IChemE directory, you will see a reference to CPD duration next to each course listing.

Our new *mycareerpath* tool is available free of charge to all IChemE members and will help you to record your CPD activity. Manage your CPD at www.icheme.org/cpd

Don't forget, if you are recording mandatory CPD you should refer to your own regulator's requirements as recognition of CPD hours may vary.

How to book

For courses run by IChemE, you can register online via the web link provided. Or complete the registration form at the back of this catalogue and return using the contact details provided.

For all other courses, contact the course provider to register your interest and to find out how to book.

Any questions?

Email: courses@icheme.org

Tel: +44 (0)1788 534431












Courses at a glance

Don't forget that most courses can also be run in-house, wherever you are in the world.

Find the right course for you

Follow the colour coding in this catalogue to find a course that meets your needs.

Courses by topic area cation





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	Personal Development and Leadership		Australasia
	Process operations		Malaysia & Singapore
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Effective Technical Writing

Suitable for anyone needing to produce accessible written materials on a technical topic, this practical course will take you through each step from identifying the target audience and their needs, planning, structuring and writing your report, through to presenting the final document.

Technical reports are often used as the basis to support critical decision making within an organisation, so the ability to communicate new ideas, information, proposals or recommendations efficiently and accurately to others is vital. Many engineers and technical personnel lack confidence in their ability to write about technical concepts and ideas in a language that will be properly understood by the reader; yet the tools and techniques associated with this skill can be learned and developed.

Learning outcomes

The course will help you to:

- identify and understand your audience
- use best practice in structuring and writing your document
- present your final report with confidence

Who will benefit

Engineers or technical personnel at all levels who are required to produce written work and reports.

Course presenter

Dr Jamie Cleaver, consultant

UK

Date / Location

5 June 2014
Rugby

Fees

ICChemE member
£400 + VAT
Non-member
£500 + VAT

Contact

Courses department
ICChemE, UK

Tel: +44 (0)1788 578214
Email: courses@icheme.org

www.icheme.org/etw

CPD **6.25** hrs

Establishing and Maintaining a Safety Culture

It is now widely accepted that an organisation's culture has a major impact on its safety performance. Accident and incident investigations have repeatedly demonstrated the importance of safety culture, and how failure to establish and maintain an appropriate safety culture impacts the probability and potential severity of disasters.

Learning outcomes

- understand what is meant by safety culture and why it is important
- understand how to measure safety culture and assess whether it needs to be changed / improved
- understand how to change / improve safety culture

Who will benefit

- anyone involved in the leadership of an organisation
- those in a managerial position involved in process operations, as well as professionals involved in HR, process safety, HSE and manufacturing support functions
- anyone who would like to develop a broad understanding of safety culture

Course presenters

Stephen Watson and Marcus Beard, Arthur D Little

UK

Date / Location

5–6 March 2014
London

Fees

ICChemE member
£950 + VAT
Non-member
£1100 + VAT

Contact

Courses department
ICChemE, UK

Tel: +44 (0)1788 534431
Email: courses@icheme.org

www.icheme.org/emsc

CPD **11.50** hrs

Introduction to Surfactants

Designed for non-chemists or chemists with a limited knowledge of surfactant technology and particularly suitable for non-technical and newly-recruited technical staff in companies operating in the sector.

The course provides a basic understanding of what surfactants are, what they do and where they are used. It is an industry-focused course rather than a purely academic course and draws on examples from a number of market sectors including home care, personal care, agrochemicals, paints and inks.

Learning outcomes

The course will develop your understanding of what surfactants are, what they do and where they are used.

Who will benefit

- anyone wishing to gain further knowledge on surfactant technology
- non-technical staff
- newly recruited technical staff

Course presenter

Harry Motson, consultant

UK

Date / Location

19 March 2014
London

Fees

ICHEME member
£275 + VAT
Non-member
£380 + VAT

Contact

Courses department
ICHEME, UK

Tel: +44 (0)1788 534431
Email: courses@icheme.org

www.icheme.org/surfactants

CPD 5 hrs

ICHEME Conferences 2014–2015

Keep up-to-date with the latest developments in your field and network with like-minded professionals at an IChemE event.

New Horizons in Gasification

10–13 March 2014, Rotterdam, Netherlands
www.icheme.org/gasification2014

5th Regional Process Safety Seminar

22 April, Miri, Sarawak, Malaysia
www.icheme.org/rpss

Sustainable Nuclear Energy

9–11 April 2014, Manchester, UK
www.icheme.org/snec2014

Hazards 24

7–9 May 2014, Edinburgh, UK
www.icheme.org/hazards24

Advances in Process Control and Automation 10

15–17 September 2014, York, UK
www.icheme.org/apca10

Chemeca 2014

28 September – 1 October 2014, Perth, Australia
www.chemeca2014.com

Hazards Asia Pacific 2015

21–23 April 2015
www.hazardsap.org



ICHEME
ADVANCING
CHEMICAL
ENGINEERING
WORLDWIDE

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.

Learning outcomes

On completion you should be able to:

- understand why area classification is carried out
- understand the principles of area classification
- understand the steps in the area classification procedure
- identify the grades of release and how they relate to zoning
- appreciate the industry codes available that can be used to establish the extent of zones
- understand the requirements for selection of equipment to be installed in potentially explosive atmospheres
- join an area classification meeting and work under the direction of an experienced practitioner

Who will benefit

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

Course presenter

Mike Ellis, ABB Consulting

UK

Dates / Locations

2–3 April 2014
Aberdeen

14–15 October 2014
Manchester

Fees

ICChemE member
£1125 + VAT

Non-member
£1185 + VAT

Contact

Jackie Kendall
ABB Consulting, UK

Tel: +44 (0)1642 372121

Email:
jackie.kendall@gb.abb.com

www.abb.com

CPD **17.75** hrs

Comprehensive 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.

Learning outcomes

- understand the phenomenon of explosions and what effects and consequences can be expected
- understand how to become compliant with the regulations in force whilst delivering a sound basis of safety to protect personnel and equipment ALARP

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 UK

UK

Dates / Locations

26–27 February 2014
Skelmersdale

14–15 May 2013
Glasgow

1–2 October 2014
Birmingham

Fees

ICChemE member
£810 + VAT

Non-member
£900 + VAT

Contact

Dave Price
GexCon, UK

Tel: +44 (0)1695 726565

Email:
dave.price@gexcon.com

www.gexcon.co.uk

CPD **14** hrs

Establishing and Maintaining a Safety Culture

It is now widely accepted that an organisation's culture has a major impact on its safety performance. Accident and incident investigations have repeatedly demonstrated the importance of safety culture, and how failure to establish and maintain an appropriate safety culture impacts the probability and potential severity of disasters.

Learning outcomes

- understand what is meant by safety culture and why it is important
- understand how to measure safety culture and assess whether it needs to be changed / improved
- understand how to change / improve safety culture

Who will benefit

- anyone involved in the leadership of an organisation
- those in a managerial position involved in process operations, as well as professionals involved in HR, process safety, HSE and manufacturing support functions
- anyone who would like to develop a broad understanding of safety culture

Course presenters

Stephen Watson and Marcus Beard, Arthur D Little

UK

Date / Location

5–6 March 2014
London

Fees

ICChemE member
£950 + VAT
Non-member
£1100 + VAT

Contact

Courses department
ICChemE, UK
Tel: +44 (0)1788 534431
Email: courses@icheme.org

www.icheme.org/emsc

CPD 11.50 hrs

In-company training

All our courses can be run in-house.

Contact courses@icheme.org to discuss your requirements

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.

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 your work depends on the knowledge and expertise of others (ie interdependency and the need for overall organisational process safety management competence)
- understand your 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
- graduates and young chemical engineers en-route to achieving chartered status
- anyone who would like to develop an understanding of process safety

Course presenters

UK:	Gary Pilkington, APEX Process Safety, Peter Neale and John Atherton
Malaysia:	Joe Eades, Ispanan Training Pty and Ir V Gopinadham
Australia:	Steve Cooper, Worley Parsons, Lex Seto and Tony Collins
New Zealand:	Paul Fetoe, Safety Solutions

UK

Dates / Locations

7–11 April 2014
Grimsby

16–20 June 2014
Aberdeen

27–31 October 2014
Manchester

Fees

IChemE member
£1725 + VAT

Non-member
£1920 + VAT

Contact

Courses department
IChemE, UK

Tel: +44 (0)1788 534431

Email: courses@icheme.org

www.icheme.org/fps

CPD 34 hrs

Malaysia

Dates / Locations

29 September–3 October
2014

Kuala Lumpur

Fees

IChemE member
MYR8850

Non-member
MYR9850

Contact

Courses department,
IChemE, Malaysia

Tel: +603 2166 0822

Email:
nzainuddin@icheme.org

www.icheme.org/fpsmal

CPD 34 hrs

Australia/New Zealand

Dates / Locations

31 March–4 April 2014
Perth, Australia

23–27 June 2014
Brisbane, Australia

25–29 August 2014
New Plymouth,
New Zealand

13–17 October 2014
Melbourne, Australia

Fees

IChemE member
AUD\$3465 (GST inc)
NZD\$3465 (GST inc)

Non-member
AUD\$3565 (GST inc)
NZD\$3565 (GST inc)

Contact

Courses department
IChemE, Australia

Tel: +61 (0)3 9642 4494,
Email:

austcourses@icheme.org

www.icheme.org/fpsperth

www.icheme.org/fpsbris

www.icheme.org/fpsnz

www.icheme.org/fpsmel

CPD 34 hrs

Singapore

Dates / Location

17–21 March 2014
Singapore

Fees

IChemE member
£1725 + VAT

Non-member
£1920 + VAT

Contact

Courses department
IChemE, UK

Tel: +44 (0)1788 534431

Email: courses@icheme.org

www.icheme.org/fpsing

CPD 34 hrs

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.

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 your work depends on the knowledge and expertise of others (ie interdependency and the need for overall organisational process safety management competence)
- understand your 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
- graduates and chemical engineers en-route to achieving chartered status
- anyone who would like to develop an understanding of process safety

Course presenters

Rod Prior, consultant and Nigel Coni, consultant

South Africa

Dates / Location

19–23 May 2014
Boksburg

3–7 November 2014
Boksburg

Fees

R13000

Contact

Rod Prior

Tel: +27 (0)82 554 0010

Email: r.prior@mweb.co.za

www.icheme.org/fpsm

SAIChE

CPD Credits: 4



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.

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 your work depends on the knowledge and expertise of others (ie interdependency and the need for overall organisational process safety management competence)
- understand your 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 (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
- anyone 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 presenter

Bob Skelton, Cambridge University

UK

Date / Location

3–7 November 2014
Preston

Fees

IChemE member
£1575 + VAT
Non-member
£1760 + VAT

Contact

Courses department
IChemE, UK

Tel: +44 (0)1788 534431
Email: courses@icheme.org

www.icheme.org/nps

CPD **33.75** hrs

Gas Explosion Hazards on Offshore and Onshore Facilities

Addresses all aspects of hazards associated with vapour cloud explosions (VCEs): ignition processes, release and dispersion, explosion mechanisms, blast loads and modelling of all these aspects.

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 analysis methodologies and when they may be applied
- understand how gas explosion loads can be integrated with the response 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 presenters

Kees van Wingerden, GexCon AS and Ronan Abiven, GexCon Consulting

UK

Date / Location

25–26 September 2014
London

Fees

ICHEME member
£1150 + VAT
Non-member
£1320 + VAT

Contact

Courses department
ICHEME, UK

Tel: +44 (0)1788 534431
Email: courses@icheme.org

www.icheme.org/gasexp

CPD **13** hrs

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 aims to provide improved awareness of hazard study team participants.

Learning outcomes

You should have greater awareness of:

- the range of hazard study techniques available and how these fit into a typical project programme
- key assumptions and limitations of hazard studies
- your role 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 presenter

Graeme Ellis, ABB Consulting

UK

Dates / Locations

28 January 2014
Manchester

12 June 2014
Edinburgh

6 November 2014
Grimsby

Fees

ICHEME member
£599 + VAT
Non-member
£630 + VAT

Contact

Jackie Kendall
ABB Consulting, UK

Tel: +44 (0)1642 372121
Email:

jackie.kendall@gb.abb.com

www.abb.com

CPD **17.75** hrs

HAZOP – Applied Hazard and Operability Study

Provides an 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.

Learning outcomes

You should understand:

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

Who will benefit

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 presenter

Steve Whitty, Jenbul Associates

UK

Dates / Locations

3–5 June 2014
Manchester
5–7 November 2014
London

Fees

ICHEME member
£1480 + VAT
Non-member
£1680 + VAT

Contact

Courses department
ICHEME, UK

Tel: +44 (0)1788 534431
Email: courses@icheme.org

[www.icheme.org/
appliedhazop](http://www.icheme.org/appliedhazop)

CPD 17.75 hrs

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.

Learning outcomes

You should understand:

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

Who will benefit

All 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/Ireland

Dates / Locations

9–11 June 2014
3–5 December 2014
Rugby, UK
26–28 March 2014
2–4 September 2014
18–20 November 2014
London, UK
31 March–2 April 2014
Cork, Ireland

Fees

ICHEME member
£1550 + VAT
€1860 + VAT at 23%
Non-member
£1745 + VAT
€2090 + VAT at 23%

Contact

Courses department
ICHEME, UK

Tel: +44 (0)1788 534431
Email: courses@icheme.org

[www.icheme.org/
hazopstudy](http://www.icheme.org/hazopstudy)
[www.icheme.org/
hazopireland](http://www.icheme.org/hazopireland)

CPD 17.75 hrs

HAZOP Study for the Offshore Oil and Gas Industry

Specifically tailored to meet the needs of the offshore oil and gas industry, this course is 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 HAZOP 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.

Learning outcomes

Team leaders will learn:

- how to be a good leader, emphasised by practice and reviews
- how to manage HAZOP studies
- the importance of pre-study preparation
- how to work effectively with team members and the team secretary

Team members will learn:

- how HAZOP study works
- the role and responsibilities of a team member
- how to become a valuable team member

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 presenter

Phil Aspinall, Arcadis UK

UK

Date / Location

1–4 April 2014
Aberdeen

Fees

ICHEME member
£1550 + VAT
Non-member
£1725 + VAT

Contact

Courses department
ICHEME, UK
Tel: +44 (0)1788 534431
Email:
courses@icheme.org

www.icheme.org/hazopoil

CPD **25.50** hrs

In-company training

All our courses can be run in-house.

Contact courses@icheme.org to discuss your requirements

HAZOP Study for Team Leaders and Team Members

An integrated course which 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 HAZOP 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.

Learning outcomes

Team leaders will learn:

- how to be a good leader, emphasised by practice and reviews
- how to manage HAZOP studies
- the importance of pre-study preparation
- how to work effectively with team members and the team secretary

Team members will learn:

- how HAZOP study works
- the role and responsibilities of a team member
- how to become a valuable team member

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 presenter, UK

Phil Aspinall, Arcadis UK

Course presenter, Australia

Robert Jorgensen, RKEJ Pty

UK

Date / Location

11–14 November 2014
Manchester

Fees

ICChemE member
£1550 + VAT
Non-member
£1725 + VAT

Contact

Courses department
ICChemE, UK

Tel: +44 (0)1788 534431

Email: courses@icheme.org

www.icheme.org/hazopteam

CPD **26** hrs

Australia

Date / Location

18–20 February 2014
Brisbane

17–19 June 2014
Melbourne

21–23 October 2014
Perth

Fees

ICChemE member
\$3465 (GST inc)
Non-member
\$3990 (GST inc)

Contact

Courses department
ICChemE, Australia

Tel: +61 (0)3 9642 4494

Email: austcourses@icheme.org

www.icheme.org/hazopbri

www.icheme.org/hazopmel

www.icheme.org/hazopperth

CPD **26** hrs

Check out our online HAZOP course, page **47**

Human Factors in Health and Safety

A one-year development programme designed specifically for the chemical and process industries. Jointly developed by IChemE and the Keil Centre, a leading practice of chartered psychologists and ergonomists, the programme addresses the human factors skills gap in the process industries.

Course content covers the Health and Safety Executive of Great Britain's top human factors issues in major hazard sites, and other current issues eg process safety culture and leadership.

There are four modules available over one year, supported by pre-course reading, together providing a broad human factors educational programme for safety and operational professionals. You can register for the whole programme or attend single events (subject to availability).

Learning outcomes

On completion of the programme you will have a thorough grounding in human factors within the process industries.

The modules

- Module One – An Introduction to Human Factors
- Module Two – Human Reliability and Failure
- Module Three – Organisational Issues
- Module Four – Human Factors and Design

Who will benefit

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

Course presenters

All sessions are delivered by recognised human factors professionals with significant process industry experience.

UK

Dates / Location

Human Reliability and Failure
5–6 February 2014
Edinburgh

Organisational Issues
21–22 May 2014
Edinburgh

Human Factors and Design
10–11 September 2014
Edinburgh

An Introduction to Human Factors
3–4 December 2014
Edinburgh

Fees

£1150 + VAT per module
£1000 + VAT
for the series of 4 modules

Contact

Courses department
IChemE, UK

Tel: +44 (0)1788 534431
Email: courses@icheme.org

www.icheme.org/humanfactors

CPD hrs:
12.50 per module
CPD hrs:
50 total

Australia

Dates / Locations

Human Factors and Design
5–6 February 2014
Perth

Human Reliability and Failure
26–27 February 2014
Brisbane

Organisational Issues
28–29 May 2014
Brisbane

Human Factors and Design
3–4 September 2014
Brisbane

Fees

AUD\$ 2200 + GST
AUD\$ 2000 + GST
for the series of 4 modules

Contact

Courses department
IChemE, Australia

Tel: +61 (0)3 9642 4494

Email:
austcourses@icheme.org

www.icheme.org/humanfactors

CPD hrs:
12.50 per module
CPD hrs:
50 total

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.

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
- learn how process safety management is organised and what are the elements of a modern process safety management system
- understand your 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 presenter, UK

John Atherton, consultant and Gary Pilkington, APEX Process Safety

Course presenter, Australia

Steve Cooper, Worley Parsons

UK

Date / Location

29–30 April 2014
Manchester

Fees

IChemE member
£1000 + VAT

Non-member
£1150 + VAT

Contact

Courses department
IChemE, UK

Tel: +44 (0)1788 534431

Email: courses@icheme.org

www.icheme.org/ips

CPD **13.75** hrs

Australia

Date / Location

13–14 May 2014
Melbourne

Fees

IChemE member
AUD\$1880 + GST

Non-member
AUD\$2100 + GST

Contact

Courses department
IChemE, Australia

Tel: +61 (0)3 9642 4494

Email:
austcourses@icheme.org

www.icheme.org/itps

CPD **13.75** hrs

5th Regional Process Safety Seminar

22 April, Miri, Sarawak, Malaysia
www.icheme.org/rpss

Hazards 24

7–9 May 2014, Edinburgh, UK
www.icheme.org/hazards24

Hazards Asia Pacific 2015

21–23 April 2015
www.hazardsap.org

IChemE ADVANCING
CHEMICAL
ENGINEERING
WORLDWIDE

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 the 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 practised in workshops, including the use of software tools in LOPA.

Learning outcomes

You should understand:

- the basic methodology of LOPA
- how to decide if a process needs a safety instrumented system (SIS)
- if yes, what safety integrity level (SIL) it needs
- 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 presenter, UK and Malaysia

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

Course presenter, Australia and New Zealand

Paul Feltoe, Safety Solutions

UK/Ireland

Dates / Locations

13–14 May 2014
16–17 September 2014
Manchester, UK
11–12 November 2014
Cork, Ireland

Fees

ICChemE member
£1300 + VAT
€1560 + VAT at 23%
Non-member
£1430 + VAT
€1716 + VAT at 23%

Contact

Courses department
ICChemE, UK
Tel: +44 (0)1788 534431
Email: courses@icheme.org

www.icheme.org/lopa
www.icheme.org/lopareland

CPD **11.50** hrs

Malaysia

Date / Location

8–9 April 2014
Kuala Lumpur

Fees

ICChemE member
MYR6670
Non-member
MYR7340

Contact

Courses department
ICChemE, Malaysia
Tel: +60 3 21660822
Email: nzainuddin@icheme.org

www.icheme.org/lopamal

CPD **11.50** hrs

Australia/New Zealand

Dates / Locations

8–9 April 2014
New Plymouth, New Zealand
14–15 July 2014
Sydney, Australia
17–18 July 2014
Brisbane, Australia

Fees

ICChemE member
AUD\$1880 (GST inc)
NZD\$2360 (GST inc)
Non-member
AUD\$2100 (GST inc)
NZD\$2635 (GST inc)

Contact

Courses department
ICChemE, Australia
Tel: +61 (0)3 9642 4494
Email: austcourses@icheme.org

www.icheme.org/lopanz
www.icheme.org/lopasyd
www.icheme.org/lopabris

CPD **11.50** hrs

Singapore

Date / Location

8–9 September 2014
Singapore

Fees

ChemE member
£1300 + VAT
Non-member
£1430 + VAT

Contact

Courses department
ICChemE, UK
Tel: +44 (0)1788 534431
Email: courses@icheme.org

www.icheme.org/lopasing

CPD **11.50** hrs

SIL Determination and Hazard Assessment

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. The course 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.

Learning outcomes

You should be able to demonstrate a working knowledge of SIL and hazard assessment including:

- logical analysis using fault tree techniques for scenarios leading to hazardous events
- use of data and its 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 SIL and hazard assessment in a variety of situations to help in making more effective cost and effective decisions

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 presenter

Alan King, ABB Consulting

UK

Dates / Locations

19–23 May 2014
Cheshire
10–14 November 2014
Edinburgh

Fees

ICChemE member
£2140 + VAT
Non-member
£2250 + VAT

Contact

Jackie Kendall
ABB Consulting, UK
Tel: +44 (0)1642 372121
Email:
jackie.kendall@gb.abb.com

www.abb.com

CPD **17.75** hrs

SIL Determination and IEC 61508/61511

Practical training 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.

Learning outcomes

On completion you should be able to:

- understand the concepts of SIL determination and the principles of IEC 61508 / 61511
- explain the key terms and concepts which underpin a systematic consideration process for safety and protective systems in respect to SIL
- understand the importance of SIL determination
- determine where present practice is in line with the requirements of these standards and identify where improvements are necessary
- implement the SIL determination

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 presenter

Alan King, ABB Consulting

UK

Dates / Locations

5–6 March 2014
Cheshire
11–12 June 2014
Edinburgh
3–4 September 2014
York
26–27 November 2016
Cardiff

Fees

ICChemE member
£1125 + VAT
Non-member
£1185 + VAT

Contact

Jackie Kendall
ABB Consulting, UK
Tel: +44 (0)1642 372121
Email:
jackie.kendall@gb.abb.com

www.abb.com

CPD **17.75** hrs

Have you read Chemical Engineering Matters?



Chemical Engineering Matters outlines IChemE's broader thinking on the areas where the profession creates, maintains or improves quality of life. Intended to provoke debate and stimulate activity and engagement, *Chemical Engineering Matters* discusses:

- Safety and risk
- Education, training and skills
- Chemical engineering research
- Energy
- Water
- Food and nutrition
- Health and wellbeing
- Political and public engagement

Download your free copy at www.icheme.org/cem or contact chemengmatters@icheme.org for a print version and further information

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.

Learning outcomes

- 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 presenter

Dr Jamie Cleaver, consultant

UK

Dates / Location

19 March 2014
4 June 2014
12 November 2014
Rugby

Fees

IChemE member
£400 + VAT
Non-member
£500 + VAT

Contact

Courses department
IChemE, UK

Tel: +44 (0)1788 534431
Email: courses@icheme.org

[www.icheme.org/
creativity](http://www.icheme.org/creativity)

CPD 6 hrs

Effective Communication for Engineers

Professional engineers are expected to possess effective communication 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.

Learning outcomes

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 presenter

Dr Jamie Cleaver, consultant

UK

Date / Location

1–2 April 2014
Rugby

Fees

IChemE member
£700 + VAT

Non-member
£850 + VAT

Contact

Courses department
IChemE, UK

Tel: +44 (0)1788 534431

Email: courses@icheme.org

[www.icheme.org/
interpersonal](http://www.icheme.org/interpersonal)

CPD **13** hrs

Book more than one place and get a discount – contact courses@icheme.org for details

Effective Technical Writing

Suitable for anyone needing to produce accessible written materials on a technical topic, this practical course will take you through each step from identifying the target audience and their needs, planning, structuring and writing your report, through to presenting the final document.

Technical reports are often used as the basis to support critical decision making within an organisation, so the ability to communicate new ideas, information, proposals or recommendations efficiently and accurately to others is vital. Many engineers and technical personnel lack confidence in their ability to write about technical concepts and ideas in a language that will be properly understood by the reader; yet the tools and techniques associated with this skill can be learned and developed.

Learning outcomes

The course will help you to:

- identify and understand your audience
- use best practice in structuring and writing your document
- present your final report with confidence

Who will benefit

Engineers or technical personnel at all levels who are required to produce written work and reports.

Course presenter

Dr Jamie Cleaver, consultant

UK

Date / Location

5 June 2014
Rugby

Fees

ICHEME member
£400 + VAT
Non-member
£500 + VAT

Contact

Courses department
ICHEME, UK
Tel: +44 (0)1788 578214
Email: courses@icheme.org

www.icheme.org/etw

CPD **6.25** hrs

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.

Learning outcomes

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

Fiona Carter, consultant

UK

Date / Location

8–9 October 2014
London

Fees

ICHEME member
£900 + VAT
Non-member
£1100 + VAT

Contact

Courses department
ICHEME, UK
Tel: +44 (0)1788 534431
Email: courses@icheme.org

www.icheme.org/ntm

CPD **11.50** hrs

Chemical Engineering for Non-Chemical Engineers

An intensive course 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.

Australia

Date / Location

18–20 November 2014
Melbourne

Fees

IChemE member
AUD\$2145 (GST inc)
Non-member
AUD\$2940 (GST inc)

Contact

Courses department
IChemE, Australia
Tel: +61 (0)3 9642 4494
Email:
austcourses@icheme.org

[www.icheme.org/
chemaus](http://www.icheme.org/chemaus)

CPD 19 hrs

Learning outcomes

You will have a good understanding of chemical engineering practice including:

- what chemical engineering is
- 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 presenter

Dr David Shallcross, University of Melbourne



Are you up to date with the world of IChemE?

Considered joining IChemE?

Join 38,000 IChemE members worldwide to share best practice, find out about new discoveries and change the world.

As a member of IChemE you can benefit from:

- global recognition as a Chartered Chemical Engineer
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- higher salaries – our annual salary survey indicates Chartered Chemical Engineers generally hold the best paid jobs
- *mycareerpath* portal to record all your CPD
- saving money with IChemE Advantage
- receiving **tce** (The Chemical Engineer) every month – read the latest news, in-depth features and current job vacancies
- discounts on journals, books and online access to *Knovel*
- free subscription to one of the 21 special interest groups
- discounts off attending conferences, training courses and events

Find out more at www.icheme.org

IChemE ADVANCING CHEMICAL ENGINEERING WORLDWIDE

Chemical Engineering for Other Engineers

Providing engineers working in the chemical and process industries, with 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. Delivered by a team of experienced chemical engineers drawn from industry and academia.

UK

Date / Location

11–13 November 2014
Shipley

Fees

ICHEME member
£1400 + VAT
Non-member
£1650 + VAT

Contact

Courses department,
ICHEME, UK

Tel: +44 (0)1788 534431

Email: courses@icheme.org

[www.icheme.org/
chemeng](http://www.icheme.org/chemeng)

CPD **20.50** hrs

Learning outcomes

You will have a good understanding of chemical engineering practice including:

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

Engineers who will benefit

- mechanical
- production
- control
- civil
- instrumentation
- electrical
- maintenance
- plant
- project

Course presenter

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

Chemical Engineering for Scientists

Providing 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. Delivered by a team of experienced chemical engineers drawn from industry and academia.

UK

Dates / Location

24–28 March 2014
6–10 October 2014
Shipley

Fees

ICHEME member
£1550 + VAT
Non-member
£1750 + VAT

Contact

Courses department
ICHEME, UK

Tel: +44 (0)1788 534431

Email: courses@icheme.org

[www.icheme.org/
chemsci](http://www.icheme.org/chemsci)

CPD **40** hrs

Learning outcomes

You will have a good understanding of chemical engineering practice including:

- what chemical engineering is
- 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 presenter

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

Heat Integration Techniques for Energy Management

With the rising cost of utilities, energy efficiency has become key in the drive to reduce a plant's production costs and cut down on its waste.

This course introduces the basics of pinch analysis – a systematic procedure for the design and improvement of process systems for optimum energy usage and minimum waste generation. This course will enable participants to assess the energy efficiency of their plant and identify measures that could reduce their plant's energy consumption without adversely affecting its structure.

Learning outcomes

You will have a good understanding of:

- energy efficiency
- process integration – a historical perspective
- minimum energy targeting with graphical technique
- minimum energy targeting with algebraic and spreadsheet tools
- synthesis of heat exchanger network with pinch design method
- industrial retrofit case studies

Who will benefit

- plant managers and supervisors
- plant designers
- process/utility engineers
- process technologists

Course presenter

Ir Dr Dominic Foo, professor of process design and integration at the University of Nottingham Malaysia campus

UK

Dates / Location

10–11 July 2014
Tbc

Fees

ICHEME member
£550 + VAT
Non-member
£650 + VAT

Contact

Courses department
ICHEME, UK

Tel: +44 (0)1788 534431
Email: courses@icheme.org

www.icheme.org/chemsci

CPD **17.75** hrs

Malaysia

Date / Location

4–5 June 2014
Kuala Lumpur

Fees

ICHEME member
RM2500
Non-member
RM2900

Contact

Courses department
ICHEME, Malaysia

Tel: +603 2166 0822
Email:
nzainuddin@icheme.org

www.icheme.org/heatmalaysia

CPD **17.75** hrs

Singapore

Date / Location

11–12 June 2014
Singapore

Fees

ICHEME member
£550 + VAT
Non-member
£650 + VAT

Contact

Courses department
ICHEME, UK

Tel: +44 (0)1788 534431
Email: courses@icheme.org

www.icheme.org/heatsing

CPD **17.75** hrs

Introduction to Microbiology

Providing an understanding of microbe types, the problems they cause and how they may be resolved, and specifically designed for those with little or no knowledge of the subject.

Developed by the British Association of Chemical Specialities (BACS), with many years' experience in the sector, it is particularly suitable for formulators who use biocides either as active ingredients in products such as disinfectants or as preservatives for raw materials or formulated products.

Learning outcomes

You will understand:

- what microbes are
- the problems microbes can cause – health related
- the problems microbes can cause – non health related
- useful strategies for resolving microbial problems

Course presenter

David Ashworth, consultant

UK

Date / Location

10 April 2014
London

Fees

ICHEME member
£275 + VAT

Non-member
£380 + VAT

Contact

Courses department
ICHEME, UK

Tel: +44 (0)1788 534431
Email: courses@icheme.org

www.icheme.org/microbiology

CPD 5 hrs

Introduction to Surfactants

Designed for non-chemists or chemists with a limited knowledge of surfactant technology and particularly suitable for non-technical and newly-recruited technical staff in companies operating in the sector.

The course provides a basic understanding of what surfactants are, what they do and where they are used. It is an industry-focused course rather than a purely academic course and draws on examples from a number of market sectors including home care, personal care, agrochemicals, paints and inks.

Learning outcomes

The course will develop your understanding of what surfactants are, what they do and where they are used.

Who will benefit

- anyone wishing to gain further knowledge on surfactant technology
- non-technical staff
- newly recruited technical staff

Course presenter

Harry Motson, consultant

UK

Date / Location

19 March 2014
London

Fees

ICHEME member
£275 + VAT

Non-member
£380 + VAT

Contact

Courses department
ICHEME, UK

Tel: +44 (0)1788 534431
Email: courses@icheme.org

www.icheme.org/surfactants

CPD 5 hrs

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.

Learning outcomes

Develop a working knowledge of key techniques that can promote trouble-free operation and reduce distillation cost, including:

- trouble-shooting a distillation column and determining what may cause poor performance
- evaluating existing performance and developing new designs
- validating your tower simulation
- avoiding 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 presenter

Henry Z Kister, Fluor

UK

Date / Location

8–10 September 2014
London

Fees

ICHEME member
£1550 + VAT

Non-member
£1725 + VAT

Contact

Courses department
ICHEME, UK

Tel: +44 (0)1788 534431

Email: courses@icheme.org

www.icheme.org/pdt

CPD **23.25** hrs

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.

Learning outcomes

- 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.

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

Course presenter

Michael Griffiths, Particle & Surface Sciences, Australia

Australia/
New Zealand

Date / Location

Tbc

Fees

ICHEME member
AUD\$3300 (GST inc)

Non-member
AUD\$3800 (GST inc)

Contact

Courses department
ICHEME, Australia

Tel: +61 (0)3 9642 4494

Email:
austcourses@icheme.org

www.icheme.org/pt

CPD **19.25** hrs

Alarm Management

A practical approach to alarm management taking you through the full alarm lifecycle covering the projects, operations and maintenance phases. As well as offering guidance for alarm specification and design, the course will help you to identify and solve problems with existing systems such as nuisance alarms.

Learning outcomes

On completion you should be able to:

- understand why your alarm system should be managed
- identify and evaluate the associated benefits
- have a good awareness of ISA 18.2 requirements and recommendations and the guidance contained in EEMUA 191
- better understand the value and role of alarms
- develop an alarm philosophy and design and implement an alarm schedule/database
- apply requirements and good practice to the identification, specification and design of new alarms
- have an understanding of the need and benefits of performance measurement and what tools are available
- have an understanding of the continuous improvement cycle for alarm management
- identify nuisance alarms and assemble a toolkit that helps reduce them
- understand the process, inputs and deliverables from an effective alarm rationalisation exercise

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 presenter

Joan Evans, ABB Consulting

UK

Dates / Locations

25–27 February 2014
Manchester

21–23 October 2014
Edinburgh

Fees

IChemE member
£1615 + VAT

Non-member
£1700 + VAT

Contact

Jackie Kendall
ABB Consulting, UK

Tel: +44 (0)1642 372121

Email:
jackie.kendall@gb.abb.com

www.abb.com

CPD **17.50** hrs

Control and Operation of Centrifugal Gas Compressors

A hands-on course which 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.

Learning outcomes

You should have a good understanding of:

- 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 presenter

Mark Dixon, ESD Simulation Training

UK

Dates / Locations

4–6 February 2014
9–11 April 2014
11–13 June 2014
17–19 September 2014
10–12 December 2014
Aberdeen

6–8 October 2014
London

Fees

£2028 + VAT

www.esd-simulation.com

CPD **21** hrs

Europe

Dates

10–12 March 2014
25–27 November 2014
Norway

Fees

Available on request

www.esd-simulation.com

CPD **21** hrs

US/Canada

Dates / Locations

2–4 April 2014
21–23 May 2014
5–7 November 2014
Houston, USA

19–21 March 2014
17–19 September 2014
10–12 December 2014
Calgary, Canada

9–11 July 2014
Kelowna, Canada

Fees US

US\$3190 plus taxes

Fees Canada

C\$3190 plus taxes

www.esd-simulation.com

CPD **21** hrs

Australia

Dates / Locations

26–28 March 2014
20–22 August 2014
26–28 November 2014
Brisbane

10–12 March 2014
15–17 October 2014
Perth

25–27 August 2014
Darwin

2–4 April 2014
29–21 October 2014
Melbourne

Fees

AUD\$3427 + GST

www.esd-simulation.com

CPD **21** hrs

Malaysia

Dates

19–21 February 2014
19–21 November 2014
Kuala Lumpur

Fees

US\$2668 + tax

www.esd-simulation.com

CPD **21** hrs

Contact

Emily Wright
ESD Simulation Training, UK
Tel: +44 (0)1467 634934
Email: emily.wright@esd-simulation.com

www.esd-simulation.com

Control, Operation and Design of Reciprocating Gas Compressors

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.

Learning outcomes

You should have a good understanding of:

- 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 presenter

Mark Dixon, ESD Simulation Training

UK

Date / Location

15–16 September 2014
Aberdeen

Fees

£1565 + VAT

www.esd-simulation.com

CPD **14** hrs

Malaysia

Dates / Location

17–18 February 2014
17–18 November 2014
Kuala Lumpur

Fees

US\$1782 + tax

www.esd-simulation.com

CPD **14** hrs

Contact

Emily Wright
ESD Simulation Training, UK
Tel: +44 (0)1467 634934
Email: emily.wright@esd-simulation.com

www.esd-simulation.com

Australia

Dates / Locations

31 March – 1 April 2014
18–19 August 2014
24–25 November 2014
Brisbane

13–14 October 2014
Perth

Fees

AUD\$2283 + GST

www.esd-simulation.com

CPD **14** hrs

US/Canada

Dates / Locations

31 March–1 April 2014
3–4 November 2014
Houston, USA

17–18 March 2014
15–16 September 2014
8–9 December 2014
Calgary, Canada

Fees US

US\$2250 plus taxes

Fees Canada

C\$2250 plus taxes

www.esd-simulation.com

CPD **14** hrs

Design and Operation of FPSOs

Provides 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.

Learning outcomes

You should have a good understanding of:

- 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 presenter

Bob Hodder, ESD Simulation Training

UK

Dates / Location

26–28 February 2014
24–26 November 2014
Aberdeen

Fees

£2028 + VAT

Contact

Emily Wright
ESD Simulation Training, UK
Tel: +44 (0)1467 634934
Email: emily.wright@
esd-simulation.com

www.esd-simulation.com

CPD **21** hrs

Australia

Date / Location

13–15 October 2014
Perth

Fees

AUD\$3427+ GST

Contact

Emily Wright
ESD Simulation Training, UK
Tel: +44 (0)1467 634934
Email: emily.wright@
esd-simulation.com

www.esd-simulation.com

CPD **21** hrs

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WORLDWIDE

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.

Learning outcomes

You should have a good understanding of:

- manage the safe operation, maintenance and commissioning of piping systems
- improve business productivity by reduced maintenance and capital costs
- recognise the need for, and the importance of, design codes and registration of critical piping systems
- have an awareness of the technical aspects of piping that must be considered when designing, constructing, modifying or maintaining piping systems, highlighting the need to control modifications
- identify the modes of failure of piping systems due to inadequate design, flexibility, supporting or routing

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

UK

Dates / Locations

11–12 March 2014
Edinburgh

21–22 October 2013
York

Fees

ICHEME member
£1350 + VAT

Non-member
£1420 + VAT

Contact

Jackie Kendall
ABB Consulting, UK

Tel: +44 (0)1642 372121

Email: jackie.kendall@gb.abb.com

www.abb.com

CPD **17.75** hrs

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.

Learning outcomes

- understand the statutory requirements and industry good practice for safe and reliable design and operation of pressurised equipment
- appreciate the problems that can occur with pressure systems and how to prevent them
- understand the significant deterioration mechanisms that affect pressure equipment

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
- engineers and managers in design, construction, operations and maintenance roles

Course presenter

Laza Krstin, ABB Consulting

UK

Dates / Location

4–5 February 2014
York

9–10 September 2014
Edinburgh

Fees

ICHEME member
£1350 + VAT

Non-member
£1420 + VAT

Contact

Jackie Kendall
ABB Consulting, UK

Tel: +44 (0)1642 372121

Email: jackie.kendall@gb.abb.com

www.abb.com

CPD **17.75** hrs

Managing Deterioration of Plant Equipment

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.

UK

Dates / Locations

1–2 April 2014
York

25–26 November 2014
Edinburgh

Fees

ICChemE member
£1350 + VAT

Non-member
£1420 + VAT

Contact

Jackie Kendall,
ABB Consulting, UK
Tel: +44 (0)1642 372121
Email: jackie.kendall@
gb.abb.com

www.abb.com

CPD **17.75** hrs

Learning outcomes

- appreciate the requirements of an integrity management programme and the benefits of focused inspection
- appreciate the main forms of deterioration and the best ways to look for them
- appreciate how to meet legislation and implement good practice
- identify the key issues associated with ageing plant

Who will benefit

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

Course presenter

Laza Krstin, ABB Consulting



Process Plant

Practical Aspects of Process Control and Instrumentation

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.

Learning outcomes

You should have a good understanding of:

- the 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

UK

Dates / Locations

18–20 February 2014
28–30 October 2014
17–19 November 2014
Aberdeen

Fees

£2125 + VAT

www.esd-simulation.com

CPD **17.75** hrs

Malaysia

Dates / Locations

18–20 March 2014
Kuala Lumpur

Fees

US\$2668 + tax

www.esd-simulation.com

CPD **17.75** hrs

Contact

Emily Wright
ESD Simulation Training, UK
Tel: +44 (0)1467 634934
Email: emily.wright@esd-simulation.com

www.esd-simulation.com

US/Canada

Dates / Locations

6–8 May 2014
Calgary, Canada

19–21 August 2014
Houston, USA

Fees

C\$3315 + tax
US\$3315 + tax

www.esd-simulation.com

CPD **17.75** hrs

Australia

Dates / Locations

25–27 March 2014
Perth

8–10 October 2014
Melbourne

Fees

AUD\$2564 + GST

www.esd-simulation.com

CPD **17.75** hrs

Pressure Relief

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.

UK

Dates / Locations

18–20 March 2014
London

10–12 June 2014
Liverpool

16–18 September 2014
Newcastle-upon-Tyne

11–13 November 2014
Edinburgh

Fees

ICChemE member
£1840 + VAT

Non-member
£1935 + VAT

Contact

Deborah Law
ABB Consulting, UK

Tel: +44 (0)1642 372029

Email:
deborah.law@gb.abb.com

www.abb.com

CPD **17.75** hrs

Learning outcomes

- improve your company's overall business safety and environmental performance
- get pressure relief design right first time and avoid costly mistakes
- discover the potential cost effective alternatives to pressure relief
- master a structured approach to pressure relief

Who will benefit

Anyone involved in the design and operation of relief systems.

Course presenter

Chris Flower, ABB Consulting

Process Plant

Production, Process and Emergency Systems on Oil and Gas Installations

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

Learning outcomes

You should have a good understanding of:

- 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

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

Course presenter

Bob Hodder, ESD Simulation Training

UK

Dates / Location

3–5 March 2014
13–15 May 2014
8–10 September 2014
1–3 December 2014
Aberdeen

Fees

£2125 + VAT

Contact

Emily Wright
ESD Simulation Training, UK
Tel: +44 (0)1467 634934
Email: emily.wright@esd-simulation.com

www.esd-simulation.com

CPD **17.75** hrs

Australia

Dates / Location

10–12 March 2014
22–24 October 2014
Perth

Fees

AUD\$3564 + GST

Contact

Emily Wright
ESD Simulation Training, UK

www.esd-simulation.com

CPD **17.75** hrs

Commercial and Project Management

Chemical Plant Commissioning

Deals with the commissioning and start-up of process plants, both large and small. Many different aspects are covered 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.

Learning outcomes

You will have a good overview of the many different aspects involved with the commissioning and start-up of process plants, both large and small.

Who will benefit

- 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 presenter

Professor Mike Fairweather, University of Leeds

UK

Date / Location

9–11 July 2014
Leeds

Fees

Available on request

Contact

CPD coordinator,
Faculty of Engineering,
University of Leeds, UK

Tel: +44 (0)113 343 2494
Email: cpd@engineering.leeds.ac.uk

www.engineering.leeds.ac.uk/short-courses

CPD **17.75** hrs

Engineering Procurement

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.

Learning outcomes

- understand how to improve safety, reduce costs and increase value from suppliers through adopting appropriate procurement approaches for each category of materials and services
- understand the relationships between price, cost and value
- appreciate the benefits of a whole life cycle cost approach
- understand how suppliers segment their customer base
- draw up action plans for your business based on the course content, to share with others and build into your 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 presenter

Dr Paul A Wright, consultant

UK

Date / Location

23 September 2014
Rugby

Fees

ICHEME member
£500 + VAT
Non-member
£550 + VAT

Contact

Courses department
ICHEME, UK

Tel: +44 (0)1788 534431
Email: courses@icheme.org

www.icheme.org/procurement

CPD **6.25** hrs

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 successfully deliver, control and manage a project.

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.

Learning outcomes

- understand best practice for managing and controlling a project
- learn how to take a structured approach to project delivery
- increase your confidence in managing issues throughout a project life cycle

Who will benefit

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

Course presenter

David Andrews, consultant

UK

Date / Location

13–15 October 2014
Manchester

Fees

ICHEME member
£1350 + VAT
Non-member
£1500 + VAT

Contact

Courses department
ICHEME, UK
Tel: +44 (0)1788 534431
Email: courses@icheme.org

www.icheme.org/epm

CPD **19.00** hrs

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. This course examines both the UK and international contract 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.

Learning outcomes

By the end of the course you will have a good understanding of the structure, main provisions and features of the ICHEME Forms of Contract, and the key differences between them.

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
- contract administrators
- engineers
- consultants, consulting engineers, quantity surveyors
- graduate engineers

Course presenter

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

UK

Date / Location

11–12 June 2014
London

Fees

ICHEME member
£1000 + VAT
Non-member
£1100 + VAT

Contact

Courses department
ICHEME, UK
Tel: +44 (0)1788 534431
Email: courses@icheme.org

www.icheme.org/foccourse

CPD **11.5** hrs

Need to get to grips with the conditions relating to a particular contract form?

Contact courses@icheme.org to discuss an in-house course

Project Engineering

Provides an understanding of the project life cycle from concept, through front end design, detailed design, construction management, commissioning and finally final handover and plant start-up activities. The course aims to provide a step-by-step description and illustration of a project's life cycle in the chemical industry.

Learning outcomes

You should be able to:

- 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)
- 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 life cycle

Course presenter

Joe Eades, Ispahan Pty and Terry Booth

Australia

Date / Location

19–21 August 2014
Perth

Fees

ICHEME member
AUD\$1890 (inc GST)
Non-member
AUD\$1900.00 (inc GST)

Contact

Course department
ICHEME, Australia
Tel: +61 (0)3 9642 4494
Email:
austcourses@icheme.org

[www.icheme.org/
projeng](http://www.icheme.org/projeng)

CPD **17.25** hrs

Singapore

Date / Location

9–11 June 2014
Singapore

Fees

ICHEME member
£1000 + VAT
Non-member
£1195 + VAT

Contact

Courses department
ICHEME, UK
Tel: +44 (0)1788 534431
Email: courses@icheme.org

[www.icheme.org/
projengsing](http://www.icheme.org/projengsing)

CPD **17.25** hrs



28 September – 1 October 2014
Perth Convention Exhibition Centre
Perth, Western Australia

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- particle technology and mineral processing
- fuels and energy
- oil and gas processing
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- food, pharmaceuticals and bioengineering
- material science and engineering
- process safety
- modelling, simulations and control
- nanotechnology
- rheology
- separation technologies
- water science and engineering
- zeolite and ordered porous materials
- molecular modelling in chemical engineering
- engineering education
- fluid mechanics and heat transfer

Visit www.chemeca2014.com or contact Natalie Angelone (nangelone@icheme.org)

What Every Engineer Should Know About Contracts

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.

Learning outcomes

- understand the law of contract (contract formation, terms, discharge, breach) and its application to engineering and construction work
- understand the tort of negligence
- understand risk allocation and its links with payment
- understand the structure and essential contents of engineering, construction and process plant contracts
- appreciate the various standard, published forms of contract used in construction – the type of work they are intended for, their risk allocation and payment arrangements

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 presenter

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

UK

Dates / Locations

14–15 May 2014

Rugby

1–2 October 2014

London

Fees

IChemE member

£1000 + VAT

Non-member

£1100 + VAT

Contact

Courses department

IChemE, UK

Tel: +44 (0)1788 534431

Email: courses@icheme.org

www.icheme.org/contracts

CPD **13.50** hrs

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.

Learning outcomes

You should understand:

- 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

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 presenter

Ben Peace, C-Tech Innovation and Rebecca Farnell, Chemistry Innovation

UK

Date / Location

Tbc

Fees

IChemE member

Tbc

Non-member

Tbc

Contact

Courses department

IChemE, UK

Tel: +44 (0)1788 534431

Email: courses@icheme.org

www.icheme.org/susguide

CPD **5.50** hrs

In-company training

All our courses can be run in-house.

Contact courses@icheme.org to discuss your requirements

Carbon Footprinting

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.

Learning outcomes

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 presenter

Professor Adisa Azapagic, University of Manchester

UK

Date / Location

25–26 June 2014
Manchester

Fees

ICHEME member
£700 + VAT
Non-member
£850 + VAT

Contact

Courses department
ICHEME, UK

Tel: +44 (0)1788 534431
Email: courses@icheme.org

www.icheme.org/carbon

CPD 11.25 hrs

Water Minimisation and Carbon Footprint Reduction with Process Integration

The demand for resources such as natural gas, crude oil and water is increasing rapidly due to population growth and economic development, and the rising costs of these resources has led the process industries to seek more cost effective, sustainable manufacturing processes. With global water usage set to increase by more than 50% by 2025, efficient use of water in industry is now recognised as being vital to achieving sustainable development. Similarly, an increased awareness towards climate change issues is encouraging industry to look for techniques to reduce their carbon footprint.

Learning outcomes

- Understand the basics of process integration
- Develop a better understanding of data extraction principles and graphical/algebraic targeting techniques for water minimisation
- Be introduced to the basics of production carbon footprint reduction

Who will benefit

- process engineers
- environmental engineers
- utility engineers
- environmental consultants

Course presenter

Dr Dr Dominic Foo, professor of process design and integration at the University of Nottingham Malaysia Campus

Malaysia

Date / Location

13–14 August 2014
Kuala Lumpur

Fees

ICHEME member
RM 2500
Non-member
RM2900

Contact

Courses department
ICHEME, Malaysia

Tel: +603 2166 0822

Email: nzainuddin@icheme.org

www.icheme.org/waterminmalaysia

CPD 17.75 hrs

Singapore

Date / Location

26–27 June 2014
Singapore

Fees

ICHEME member
£550 + VAT
Non-member
£650 + VAT

Contact

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A flexible way to learn new skills

HAZOP Study Training for Team Members – online

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 website provides an introductory course for newcomers to Moodle.

What is covered

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.

Fees

IChemE member – £650 + VAT

Non-member – £750 + VAT

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To purchase our e-learning courses or for more information:

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auscourses@icheme.org

or by fax to
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in Kuala Lumpur,
London, Melbourne,
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IChemE offices

Global headquarters

Rugby – UK

Tel: +44 (0) 1788 578214

Email: customerservices@icheme.org

Australia

Tel: +61 (0) 3 9642 4494

Email: austmembers@icheme.org

Malaysia

Tel: +603 2166 0822

Email: malaysianmembers@icheme.org

New Zealand

Tel: +64 (4) 473 4398

Email: nzmembers@icheme.org

Singapore

Tel: +65 64715043

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