Fire Safety Design

Monday 27 November – Friday 1 December 2017

15% discount for IFE Members
**Fire Safety Design**

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**Background**
Each year, fires and explosions claim a greater toll than earthquakes and floods and all other natural disasters combined. In the UK, fire and explosion is an industry with an approximate annual worth in the order of £12 billion. Some single incidents cost millions of pounds, such as the Windsor Castle fire. The Sandoz industrial fire devastated 500 miles of the Rhine River. Loss of life in fires is commonplace and can be in large numbers, as at the Bradford football stadium, Kings Cross, Piper Alpha, Rosepark care home and Lakanal House tower block, and recently the Grenfell Tower fire disaster.

Over the last three decades progressive design approaches and standards have emerged through better scientific understanding of fire development and of the human and structural response to fire. The knowledge base and legal framework for effective Fire Safety Design, to approved standards, is very fragmented and confusing to a newcomer in the field.

**Course objectives**
This course aims to provide, in a structured manner, an organised and comprehensive framework for fire safety and building fire protection design.

On completion of the course the participants should be in a position to make a significant contribution in the design of appropriate fire safety systems for a fairly complex building or structure.

**Course format**
During the course the key pieces of legislation along with methods for identification and quantification of hazard and risk as well as the strategic approaches to fire safety design will be reviewed. The engineering design of specific fire safety systems such as: means of escape, detection and warning, emergency lighting, smoke control and fire extinguishing will be presented and the main sources of more detailed information and guidance will be identified and reviewed. By necessity the course concentrates mainly on buildings; however, the principles presented are applicable to other systems.

Oral presentations will summarise detailed course materials. A full copy of the Building Regulations, Approved Document B will also be provided to all delegates attending the first day of the course. Participants’ learning will be enhanced through example calculations and design problems, so please bring a calculator with you.

**Intended audience**
The course will be of benefit to the following professionals: architects, building technologists, building surveyors, quantity surveyors, building control officers, estate managers, fire officers, loss adjusters, loss assessors and insurers, company fire safety officers, HSE personnel and fire consultants. The course particularly aims to help those (in the above fields) who have recently been given responsibility in fire safety and those who seek structured and comprehensive guidance on the fundamentals of fire safety design methods and approved practices. Although extensive reference is made to UK legislation the principles of performance based design are applicable to a wider international audience.

**Course accreditation**
The Fire Safety Design CPD course has been approved for 33.5 hours CPD hours in total by the Institution of Fire Engineers (IFE).

The Energy Institute has approved the University of Leeds – Faculty of Engineering as an Approved Training Provider.

**MSc Option**
This course is accredited by the University of Leeds to form part of an MSc Masters programme (full time or part time) in Fire and Explosion Engineering. Modules of this MSc may also be taken individually or as part of a coherent course to meet personal needs for Continuing Professional Development.

For more information on the MSc please visit the website at [http://engineering.leeds.ac.uk/fire](http://engineering.leeds.ac.uk/fire)
**Programme**

**MONDAY 27 NOVEMBER 2017**

**Means of Escape / Human Behaviour in Fires / UK and New EU Testing Standards**

08.30 Registration and coffee
09.00 Introduction to Fire Safety Design course
   Dr Roth Phylaktou, University of Leeds
09.10 Regulatory framework
   Ahmed Maani, Arup Fire
09.50 Introduction to compartment fires
   Dr Roth Phylaktou, University of Leeds
10.45 Coffee
11.00 Means of escape
   Ahmed Maani, Arup Fire
12.10 Lunch
13.10 Human behaviour in fire – basic principles, modelling and design
   Dr Jeremy Fraser-Mitchell, BRE
15.10 Tea
15.25 Travel time as an alternative to travel distance
   Jonny Joinson, Design Fire Consultants
16.10 Testing standards
   Beth Dean, Exova Warringtonfire
17.10 End of day one
19.00 Course dinner

**TUESDAY 28 NOVEMBER 2017**

**Detection and Warning Systems, Emergency Lighting and Structural Protection**

08.45 Registration and coffee
09.00 Hospital fire safety strategies
   Colin Newman, Healthfire Limited
10.15 Coffee
10.35 Detection and warning systems with case studies
   Colin Newman, Healthfire Limited
12.20 Lunch
13.20 Aspects of passive fire protection in building design
   David Wickham, International Paint Ltd
15.10 Tea
15.25 Emergency lighting
   Dr Roth Phylaktou, University of Leeds
16.05 Alarm systems and sound level calculation
   Dr Roth Phylaktou, University of Leeds
16.45 End of day two

**WEDNESDAY 29 NOVEMBER 2017**

**Smoke Control Systems**

(Ventilation and Pressurisation)

08.45 Registration and coffee
09.00 Smoke production and methods of control
   Stewart Miles, International Fire Consultants Ltd
09.45 Smoke control using applied airflows and pressure differentials
   Stewart Miles, International Fire Consultants Ltd
10.30 Coffee
10.45 Smoke control for atria and large enclosures
   Stewart Miles, International Fire Consultants Ltd
12.20 Lunch
13.20 Ventilation of enclosed car parks and loading bays with impulse fans
   Paul White, Advanced Smoke Group
14.20 Tea
14.35 Smoke control by dilution
   Stewart Miles, International Fire Consultants Ltd
15.20 Other fire engineered design examples
   Ryan McCreadie, WSP UK
16.20 Hand calculation examples of smoke control
   Dr Roth Phylaktou, University of Leeds
17.00 End of day three

**THURSDAY 30 NOVEMBER 2017**

**Extinguishing installations – sprinkler and CO₂ systems**

08.45 Registration and coffee
09.00 Automatic sprinkler protection systems
   Allan Macpherson, FM Global
10.00 Coffee
10.15 Automatic sprinkler protection systems (continued)
   Allan Macpherson, FM Global
11.45 Sprinkler system design calculations
   Dr Roth Phylaktou, University of Leeds
12.30 Lunch
13.15 Sprinkler system design calculations (continued)
   Dr Roth Phylaktou, University of Leeds
14.15 Carbon dioxide suppression systems
   Dr Roth Phylaktou, University of Leeds
14.45 Tea
15.00 Carbon dioxide suppression systems (continued)
15.40 Developing technologies for fire suppression
   Paul Galbraith, Nuclear Risk Insurers Ltd
17.00 End of day four

**FRIDAY 1 DECEMBER 2017**

**Fire Safety Engineering (Risk Assessment)**

08.45 Registration and coffee
09.00 Qualitative fire risk assessment (Fire Safety Order)
   David Bostelmann, Tenos Ltd
10.15 Coffee
10.30 Qualitative fire risk assessment (continued)
   David Bostelmann, Tenos Ltd
12.30 Lunch
13.30 Qualitative design review (QDR)
   Matthew Salisbury, Design Fire Consultants
14.30 Tea
14.45 Quantitative fire risk assessment
   Matthew Salisbury, Design Fire Consultants
16.00 End of day five and course

**Other CPD Fire Engineering courses in:**

- Fire and Explosion Investigation – 25-29 September 2017
- Fire Dynamics and Modelling – 23-27 October 2017
- Gas, vapour and dust Explosion Hazards, prediction, mitigation and protection – 12-16 March 2018

**What our previous delegates say:**

“"This course is an absolute must for those looking for a thorough and comprehensive grounding in fire safety design, simply one of a kind in the UK.” ARUP

"This course is one of the best courses and comprehensive on the subject of Fire Safety. I recommend specialists and non-specialists to attend this course and get useful information.” Saudi Electricity Company

"Excellent course with some legendary fire experts included." EDF Energy

A full course programme including detailed presentation descriptions can be viewed on the course webpage at:

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

Venue
The venue for the course will be Weetwood Hall Conference Centre and Hotel which offers first-class hotel facilities, a business centre and ample parking facilities. Weetwood Hall is an award winning, flexible conference centre and hotel in the north of England.

Weetwood Hall Hotel is ideally situated 15 minutes north of the centre of Leeds in wooded grounds at the junction of the Otley Road and the outer ring road. It is just 15 minutes from Leeds Bradford International Airport and a short distance from the A1, M1, M606, M621 and M62 motorways.

Further details can be found at www.weetwood.co.uk

Course fees
The following course fees include the cost of tuition, course materials, lunches and light refreshments for the days of attendance:

- Full five days: £1595
- Any one day: £410

IFE members
Delegates who are a member of the Institution of Fire Engineers (IFE) will receive a 15% discount on the course fee. Please indicate when booking if you are a member, stating your IFE membership number.

- IFE member full five days: £1355.75
- IFE member one day: £348.50

Accommodation
Bed and breakfast accommodation is available at the course venue, Weetwood Hall Conference Centre and Hotel.

We have negotiated the following special rates per night for our delegates:

- Friday – Sunday evening, bed and breakfast: £82
- Monday – Thursday evening, bed and breakfast: £86

To take advantage of these special rates, please book by contacting the hotel direct on 0113 230 6000 (Stevie Standerline), E: stevie.standerline@weetwood.co.uk. Please quote ‘University of Leeds CPD Unit’ and the course name when contacting Weetwood Hall to book accommodation.

Please note that accommodation bookings must be made two weeks before the course commences at the latest to qualify for the special rates and to guarantee room availability. Any accommodation requests after this date will be subject to availability and rates. A list of alternative hotels is available on request. Delegates are responsible for their own evening meals except on Monday 27 November when the course dinner is included.

How to book
Booking for this course should be completed through our secure Online Store. To complete your booking please follow the instructions below:

1. Log on to our Online Store at: https://store.leeds.ac.uk
2. Select Conferences and Events in the left-hand navigation bar.
3. Select CPD Faculty of Engineering
4. Select the course or event for which you wish to register and click on ‘Book’.
5. If you are a new user, please follow the instructions to register. If you already have an account log in as instructed.
6. Complete the application process as directed by the booking system.

You will receive an automatic confirmation email within 24 hours of your booking.

Course dinner
The course dinner will be held at a Leeds city centre restaurant and is included in the course fee. This will take place on Monday evening and transport from and to Weetwood Hall Hotel is provided. The dress code is smart casual. If you would like to attend please indicate when booking.

Accessibility
Please let us know if you have any specific requirements including any access or dietary requirements in relation to this course.

For online booking queries and for all other enquiries please contact:

CPD, Conference & Events Coordinator
CPD, Conference & Events Unit
Faculty of Engineering
School of Chemical and Process Engineering, 3.11
University of Leeds
LEEDS, LS2 9JT, UK.
T: +44 (0) 113 343 2494
E: cpd@engineering.leeds.ac.uk
W: www.engineering.leeds.ac.uk/short-courses
@LeedsUniCPD

Terms and conditions for booking
Payment in full should accompany your booking. The course fee is exempt from VAT. Fees must be paid in full no later than 15 working days before the course commences. Failure to pay may result in attendance being refused.

Registrations are accepted on the understanding that the printed programme is given in good faith but may have to be re-scheduled or the speakers changed for reasons outside our control. The University of Leeds reserves the right to cancel or postpone the course, in which case fees will be refunded in full. In the event of cancellation, the University will not be held liable for delegates travel or accommodation expenses.

Delegates will receive a full refund for cancellations made within 7 days of online booking, except where the booking has been made for an event commencing within the next 7 days. Where a delegate wishes to cancel a registration after this 7 day period, written cancellations received up to 15 working days before the course will be subject to an administrative charge of 20% of the total remittance. After this date the full fee is chargeable and no refunds will be made, this also applies for non-attendance but copies of the course documents will be sent. Substitutions may be made at any time.

If you are unable to complete your registration using the online booking system please contact the CPD, Conference & Events Unit to discuss alternative arrangements.