

How to Book

Booking for this course should be completed through our secure Online Store.

To complete your booking please follow the instruction 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.

We will respond to your online application within 48 hours, either to enrol you on the course if there is availability, or to let you know the course is full.

Problems with booking online and for all other enquiries

If you are experiencing problems with booking online or have any queries about the course please contact:

Rachael Lawson, CPD Course and Events Co-ordinator,
CPD Unit, Faculty of Engineering,
c/o School of Civil Engineering, Room 209
University of Leeds
LEEDS, LS2 9JT, UK

T: + 44 (0) 113 343 8104

F: + 44 (0) 113 343 2511

E: cpd@engineering.leeds.ac.uk

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

Potential delegates who have any special requirements should contact the above as soon as possible.

Terms and conditions for online booking

Payment in full should accompany your online booking. The course fee is exempt from VAT.

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 commences 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 Unit to discuss alternative arrangements.

Administration Details

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 the largest and most 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

Accommodation: Bed and breakfast accommodation is available at the course venue, Weetwood Hall Conference Centre and Hotel. To take advantage of the special rates we have negotiated with the hotel for our course delegates, please book using the instructions below:

1. Log onto: <http://www.engineering.leeds.ac.uk/short-courses/fire-engineering/>
2. Select 'Fire Dynamics and Modelling'
3. Click on the 'Accommodation Booking' link in the left hand column
4. Complete the following fields: Arrival Date, Departure Date, Rooms, Adults, Children
5. Click the 'Check Availability' button (N.B. You will not need to click on 'Click Here for Special Rates' or enter a promotional code as this is already completed for you).
6. Proceed with your booking as instructed by the booking system.

We have negotiated the following special rates per night:

Friday – Sunday

Bed and breakfast £62

Monday – Thursday

Bed and breakfast £87

Delegates are responsible for their own evening meals except on Monday 31 October when the course dinner is included.

A list of alternative hotels is available on request.

If you are unable to complete your accommodation using the online booking system please contact Weetwood Hall Hotel directly at the contact details given on their web page at www.weetwood.co.uk

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 this when you make your online course booking.

Course Fees: The following course fees include the cost of tuition, course notes, lunches and light refreshments for the day(s) of attendance:

£1370 Full five days

£330 Any one day

Faculty of Engineering

UNIVERSITY OF LEEDS



Fire Dynamics and Modelling

Monday 31 October –
Friday 4 November 2011

15% discount for
IFE members

Course Director:
Dr Roth Phylaktou

Energy and Resources
Research Institute,
School of Process,
Environmental
and Materials Engineering

Please pass this leaflet to a
colleague if this course is not
relevant to you



The University of Leeds



Weetwood Hall Hotel



Information about the course

Fire Dynamics and Modelling

Monday 31 October – Friday 4 November 2011

Background to the course

Each year, fires and explosions claim a greater toll than earthquakes and floods and all other natural disasters combined.

Some single incidents cost millions of pounds, such as the Windsor Castle fire. The Sandoz industrial fire devastated 500 miles of the Rhine River. Explosion initiated fires can cause severe devastation as in the Piper Alpha disaster in the North Sea where 167 lives were lost and the financial loss exceeded a billion pounds. Loss of life in fires is commonplace and can be in large numbers, as in the Bradford football stadium fire and the Kings Cross fire.

In the UK fire and explosion is an industry with an approximate annual worth of £5 billion. Recent Government reports and EC directives recommend that there is an urgent need to improve the training of personnel involved in fire protection, in order to be able to apply the progressive standards that have emerged through better scientific understanding and application of Fire Engineering.

What will you get out of this course?

On completion of this course, participants should be able to apply general combustion and engineering principles to fires, should know the parameters that influence flame spread and steady burning and should be able to quantify the burning rate in compartment fires, predict the rate of development of the fire, the onset of flashover, and appreciate the application of these concepts to fire protection design. They should also understand the factors influencing smoke toxicity and movement.

The participants will also be made aware of the predictive tools that are available and should become familiar with the application and use of such tools, through 'hands-on' practice.

Accreditation

The Fire Dynamics and Modelling CPD course, Leeds, has been approved for 32 CPD hours in total by the Institution of Fire Engineers (IFE).

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

Intended Audience

Anybody who wishes/needs to gain a comprehensive, scientifically based analysis and engineering quantification tools, of fire development and consequence assessment in industrial and residential scenarios. This could include those involved in the design and operation of buildings and chemical plant (architects, civil engineers, chemical engineers), and in the design of protection systems (passive and active system developers, manufacturers, installers), those responsible for building and plant safety on a day to day basis, regulators and advisors (HSE, Fire Service, Home Office, Local Authorities, Building Control Offices, Consultants, Insurers) and fire-fighting professionals. Additionally, young researchers may find this course very useful.

Course Format

The course will follow a structured approach starting from the general fundamental principles of combustion flammability and heat transfer and leading the participant through to the more specific study of fire spread and fire development in compartments. Open fires such as pool and jet fires will also be covered. The principles of fire protection practice and technology will be discussed within the context of understanding the fire development mechanism and the response of structures to fires. Formal lectures will be supported by a full set of notes. The participant learning experience will be enhanced through worked examples and brief problems that the participants will be asked to attempt on their own or in groups (so please bring a calculator with you). On the last day of the course there will be the opportunity for some hands-on experience with predictive PC packages.

MSc Option

This course also forms 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 (CPD).

For more information on the MSc please visit the website at <http://www.engineering.leeds.ac.uk/fire>

Full course programme

A full programme including detailed lecture descriptions can be viewed online at:

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

Monday 31 October 2011

Fundamental Processes

- 08.30 Registration and coffee**
09.00 Physical concepts
Dr Roth Phylaktou, Energy and Resources Research Institute, University of Leeds
- 10.10 Coffee**
10.30 Fuel and combustion processes and fundamentals
Dr Roth Phylaktou, Energy and Resources Research Institute, University of Leeds
- 12.00 Limits of flammability**
Dr Roth Phylaktou, Energy and Resources Research Institute, University of Leeds
- 13.15 Lunch**
14.00 Heat transfer: conduction and convection
Dr John Staggs, Energy and Resources Research Institute, University of Leeds
- 15.10 Tea**
15.30 Heat transfer: conduction and convection (continued) Approximate integral method for transient conduction
Dr John Staggs, Energy and Resources Research Institute, University of Leeds
- 16.30 End of day one**
19.00 Course Dinner

Tuesday 1 November 2011

Radiation, Ignition and Flame Spread

- 08.45 Registration and coffee**
09.00 Radiation from fires Nature of Radiation, Radiative heat exchange
Dr Roth Phylaktou, Energy and Resources Research Institute, University of Leeds
- 10.20 Coffee**
10.40 Radiation from fires (continued) Representation of flames in fire calculations, Thermal radiation in participating media
Dr Roth Phylaktou, Energy and Resources Research Institute, University of Leeds

Dr Roth Phylaktou, Energy and Resources Research Institute, University of Leeds

- 12.30 Lunch**
13.30 Ignition. General, Ignition of gaseous fuels, Ignition of liquid fuels, Ignition of solids
Dr Roth Phylaktou, Energy and Resources Research Institute, University of Leeds
- 15.00 Tea**
15.15 Spread of flame
Dr Roth Phylaktou, Energy and Resources Research Institute, University of Leeds
- 16.30 End of day two**

Wednesday 2 November 2011

Pool Fires, Jet Fires and Cloud Fires

- 08.45 Registration and coffee**
09.00 Steady burning diffusion fires
Dr Roth Phylaktou, Energy and Resources Research Institute, University of Leeds
- 10.15 Coffee**
10.30 Pool and jet fires in the open
Dr Roth Phylaktou, Energy and Resources Research Institute, University of Leeds
- 11.40 Radiation from flames**
Dr Roth Phylaktou, Energy and Resources Research Institute, University of Leeds
- 12.20 Lunch**
13.05 Example calculations: radiation flux from flare on escape route
Dr Roth Phylaktou, Energy and Resources Research Institute, University of Leeds
- 13.35 Pool and jet fires, large scale tests**
Phil Cleaver, GL Nobel Denton
- 14.20 Pool fires in fuel storage area**
Vania De Stefani, Major Hazard and Fire, BP International Limited
- 15.05 Tea**
15.20 Cloud fires
Peter Rew, ATKINS
- 16.15 Pool and jet fires in compartments**
Professor Geoff Chamberlain, Consultant, Waverton Consultancy Ltd, previously Shell Global Solutions (UK)
- 17.00 End of day three**

Thursday 3 November 2011

Compartment Fires

- 08.15 Registration and coffee**
08.30 The growth period
Dr Roth Phylaktou, Energy and Resources Research Institute, University of Leeds
- 10.00 Coffee**
10.20 Flashover
Dr Roth Phylaktou, Energy and Resources Research Institute, University of Leeds
- 12.00 Lunch**
12.45 The post-flashover period and backdraughts
Dr Roth Phylaktou, Energy and Resources Research Institute, University of Leeds
- 14.15 Fire performance of structures**
Dr Florian Block, BURO Happold
- 15.15 Tea**
15.30 Smoke movement
Dr Roth Phylaktou, Energy and Resources Research Institute, University of Leeds
- 16.15 Fire combustion products and toxicity as a function of ventilation conditions**
Professor Gordon Andrews, Energy and Resources Research Institute, University of Leeds
- 17.15 End of day four**

Friday 4 November 2011

Compartment Fire Modelling

- 08.45 Registration and coffee**
09.00 Overview of fire models
Dr Roth Phylaktou, Energy and Resources Research Institute, University of Leeds
- 09.40 A zone model in detail – CFAST**
Dr Roth Phylaktou, Energy and Resources Research Institute, University of Leeds
- 10.30 Coffee**
10.45 A CFD model in detail – JASMINE
Richard Chitty, BRE Global
- 12.00 Buffet Lunch**
12.40 Transport to the University of Leeds

- 13.00 Hands on experience with a zone model**
Peter Riley, Energy and Resources Research Institute, University of Leeds
- 13.30 Return transport to Weetwood Hall Hotel**
15.45 Tea / coffee and issue of attendance certificates
16.00 End of day five and course

View the full programme online at www.engineering.leeds.ac.uk/short-courses/

Other courses offered by the CPD Unit in:
Fire Engineering
Environmental Engineering
Waste Management
Power and Process Engineering
Automotive Engineering
ParticlesCIC

What our previous delegates say

- “An invaluable grounding in all fundamentals of fire modelling which can be useful to many professional engineers in their workplace”
- “An in-depth study of the subject from a highly regarded establishment”
- “The theoretical and practical foundations required for progression to fire modelling an introduction to complex predictive techniques/software solutions”
- “An excellently structured and run course, providing a thorough grounding in Fire Dynamics and Modelling. Interesting and challenging throughout”