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rates available

## Eurocodes Masterclasses

### Is your business ready?

Your questions answered - practical guidance  
and next steps to help ensure your Eurocodes  
implementation is a success

1-4 February 2010,  
BSI Headquarters, London

9-12 March 2010, Marriott Hotel,  
Manchester Airport, Manchester

#### Eurocodes covered by the masterclasses:

Day 1	Masterclass 1	Basis of structural design and Eurocode 1: Actions on structures*
Day 2	Masterclass 2A or Masterclass 2B	Eurocode 2: Design of concrete structures or Eurocode 5: Design of timber structures
Day 3	Masterclass 3A or Masterclass 3B	Eurocode 3: Design of steel structures or Eurocode 6: Design of masonry structures
Day 4	Masterclass 4	Eurocode 4: Design of composite steel and concrete structures

\*Recommended to all delegates as it forms the basis for later classes

#### Attend the masterclasses to:

- Learn from leading experts working with Eurocodes
- Understand the cost and time implications to your business
- Find out more about the effects of the British Standards being withdrawn in March 2010
- Highlight the challenges and opportunities of Eurocodes in comparison with British Standards
- Work on practical examples to gain a good understanding of the Eurocodes most relevant to you
- Enhance your knowledge of compliance with the National Annexes
- Gain credit towards your continuing professional development (CPD)

#### Supporting organizations:

The Institution  
of Structural  
Engineers



# Is your business ready?

## Masterclass Programme

### DAY 1

Dates: London 1 February,  
Manchester 9 March

#### Basis of Structural Design and Eurocode 1: Actions on structures

Discussion and working sessions will take place throughout the programme. There will also be opportunities for networking during the event.

This masterclass illustrates the importance of EN 1990 Eurocode: Basis of structural design and EN 1991: Actions on structures as integral components of every structural design. It provides you with an opportunity to gain a detailed, working knowledge of the main requirements of these two codes and best practice for successfully integrating them into your organization.

**Delegates are required to bring a scientific calculator to the class.**

#### The session includes:

##### Introduction to Eurocodes

- Background
- Aims and objectives
- Essential requirements
- Scopes
- Structure and links between Eurocodes
- National Annexes (NAs) and Non-Contradictory Complementary Informations (NCCIs)
- Costs and implementation timelines

##### Introduction to EN 1990: Basis of structural design

- Scope
- Useful terms, definitions and symbols
- Requirements
- Design philosophy and limit states design: Ultimate limit states (ULS) and serviceability limit states (SLS)
- Basic variables: actions and material properties
- Verification by the limit states design method
- Working examples

##### Introduction to EN 1991 – Eurocode 1: Actions on structures

- Structure of Eurocode 1
- UK National Annexes for Eurocode 1
- Part 1-1: General actions – Densities, self-weight, imposed loads for buildings and working examples
- Part 1-2: General actions – Actions on structures exposed to fire
- Part 1-3: General actions – Snow loads and working examples
- Part 1-4: General actions – Wind loads and working examples

##### Dr Binsheng Zhang

Lecturer in Structural Engineering,  
Edinburgh Napier University

#### Drinks reception:

A post-class drinks reception will be held at the end of Day 1 for additional networking opportunities

### DAY 2

Dates: London 2 February,  
Manchester 10 March

#### Masterclass 2A Eurocode 2: Design of concrete structures

This masterclass examines the comprehensive nature and complexity of the Eurocode 2 which is set to replace: BS 8110 for buildings, BS 5400 for bridges, BS 8007 for water-retaining structures and BS 6349 for maritime structures. It also examines the challenges which you face in implementing a new code as well as potential costs and economic benefits of this new design for concrete structures.

**Delegates are required to bring a scientific calculator to the class.**

#### The session includes:

##### Introduction to Eurocode 2

- Including: Relationships to other European Standards, key differences to current standards, the UK National Annex and materials

##### Flexural design

- An overview of the principles with practical application of the design guidance

##### Axial resistance

- Explanation of guidance relating to the design of elements resisting axial loads

##### Shear design

- Explanation of the theory and design approaches for beams, slabs and punching shear

##### Serviceability

- Introduces the guidance for checking deflection and control cracking

##### Looking forward

- Presents the challenges and opportunities, looks at the economic impact and reviews the available resources

##### Owen Brooker

Senior Engineer & Education Manager,  
The Concrete Centre

#### Masterclass 2B Eurocode 5: Design of timber structures

This masterclass focuses on the main elements of the new design code of timber structures. The new EN 1995-1-1 will replace BS 5268 design code. The main issues, and practical implementations of a new design code will be discussed.

Five worked examples are included during the day.

**Delegates are required to bring a scientific calculator to the class.**

#### The session includes:

##### Introduction

- EN 1995-1-1 within the Eurocode suite
- Differences between EN 1995-1-1 and BS 5268

##### Designing with EN 1995-1-1

- Consideration of EN 1990
- Interface between EN 1995-1-1, National Annex & PD 6693-1-1 (NCCI)
- CEN product standards

##### Design of bending members

- Ultimate limit states
- Serviceability limit states

##### Design of compression members

##### Design of metal dowel-type joints

- Individual fasteners
- Groups of fasteners
- Joint slip

##### Julian Marcroft

Managing Director,  
TimberSolve Ltd

#### Masterclass timings

Registration: 09:30

Masterclass begins: 10:00

Masterclass closes: 16:00

Please note, timings are provided for guidance only and may be subject to change.

**DAY 3**

**Dates:** London 3 February,  
Manchester 11 March

### Masterclass 3A Eurocode 3: Design of steel structures

This Masterclass presents all important issues surrounding the implementation of the Eurocode 3 which replaces the existing BS 5950. It also identifies the main scenarios which structural engineers will have to consider in the foreseeable future, such as: structural behaviour, materials, structural components and joints. Real life case studies are used to enable attendees to grasp the practical implications of designs using Eurocode 3.

**Delegates are required to bring a scientific calculator to the class.**

#### The session includes:

- Scope, timescales, terms, definitions and design assumptions
- In which ways Eurocode 3 differs from the existing BS 5950?
- Analysis of structures
- Buckling and stability – background and examples
- Classification and practical examples for design of columns
- Classification and practical example for design of beams
- Design of connections
- Future developments, costs and sources of further information

#### Dr Leroy Gardner

Senior Lecturer, Structural Engineering, Department of Civil and Environmental Engineering, Imperial College London

### Masterclass 3B Eurocode 6: Design of masonry structures

This masterclass examines the key issues and practical implications of Design of Masonry Structures which is set to replace the existing British Standard BS 5628 on 31 March 2010 leaving Eurocode 6 as the primary code for masonry design. In developing Eurocode 6 a way had to be found to deal with the wide range of masonry units used across Europe. This range not only includes different materials such as clay, concrete and stone, but also a variety of a variety of configurations based upon the proportion and direction of any holes or perforations, web thickness etc. This has resulted in four groupings of masonry units.

Five worked examples are included during the day.

**Delegates are required to bring a scientific calculator to the class.**

#### The session includes:

- Comparison of Eurocode 6 with the existing standard
- Rules for reinforced and unreinforced masonry
- Design requirements
- Selection and execution of masonry
- Simplified calculation methods for unreinforced masonry structures
- Detailed rules on lateral loading
- Working examples of calculations
- National Annexes relevant to masonry design
- Further developments and opportunities

#### Professor John Roberts

Principal,  
Technical Innovation Consultancy

**DAY 4**

**Dates:** London 4 February,  
Manchester 12 March

### Masterclass 4 Eurocode 4: Design of composite steel and concrete structures

This masterclass reviews the key issues and practical implications of the design of composite beams, slabs and columns which will replace the existing British Standard BS 5950. The presentations on the current design procedure combined with practical design examples will enable you to gain a good understanding of this new design code.

#### The session includes:

**Introduction to composite design and Eurocode 4**

**Cross references to Eurocodes 2 and 3**

**Shear connection**

**Design of the composite slabs, beams and columns**

**Working examples of calculations**

- Design of composite slabs
- Design of composite beam with metal deck flooring
- Design of composite beam with precast hollowcore slabs
- Design of composite columns
- Calculation on the interaction curve for columns

**Further developments and opportunities**

#### Dr Dennis Lam

Reader, Structural Engineering and Steel Design, University of Leeds

#### Masterclass timings

**Registration:** 9:00-9:30  
**Masterclass begins:** 09:30  
**Masterclass closes:** 16:00

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## Masterclass Outline

The Eurocodes Masterclasses are designed to give you and your business the tools to succeed in making the change from the existing British Standards to Eurocodes. Our expert panel of tutors will be able to answer technical questions, while real life case studies will demonstrate practical solutions in overcoming challenges that you might experience in your design practice. Discussion sessions will provide networking opportunities with other attendees to share ideas and identify key issues for successful implementation

To help you get targeted information on the material/s you work with, you will be able to attend one, two, three, or four days of classes each specific to the Eurocodes relevant to your business.

## Who should attend?

- Structural engineers
- Civil engineers
- Consultants
- Manufacturers and producers of construction products
- Architects
- Software developers

## Key speakers

- Owen Brooker
- Dr Leroy Gardner
- Dr Dennis Lam
- Julian Marcroft
- Professor John Roberts
- Dr Binsheng Zhang

## About Eurocodes

Eurocodes are a suite of structural design codes which will harmonize technical specifications for building and civil engineering work across Europe. Their implementation will be profound and has been described as "The single most important change to construction standards ever." [Prof David Nethercot in *National Strategy for the Implementation of Structural Eurocodes*].

It is expected that the Codes will not just dominate building design in the UK and Europe, but also have a major impact on many other parts of the world. The Public Procurement Directive will specify the use of Eurocodes in all public contracts over €5.25 million. In the UK, the Building Regulations Approved Document A will be amended to reference the Eurocodes as a stated means of compliance. This is expected to happen when all of the National Annexes have been published later this year. Almost all public building design after March 2010 will be undertaken using the Eurocodes

## About BSI Conferences

BSI conferences bring together key players to learn about latest trends, regulations and topical issues with opportunities for delegates to take part in open discussions and debates led by panels of expert speakers. In addition, these conferences may have workshops running alongside to provide guidance and practical advice.

With relevant and up-to-date information, presented in an accessible and appropriate manner, you will leave one of our events better equipped to face your professional challenges and responsibilities.

[www.bsigroup.com/conferences](http://www.bsigroup.com/conferences)

## Sponsorship and partner opportunities

Through BSI conferences and events your company will be able to reach your target market and showcase your products and solutions. If you are interested in promoting your company, its products or services at the masterclass, please call **020 8996 7371** or email [conferences@bsigroup.com](mailto:conferences@bsigroup.com)

If you would like to work with BSI on a contra basis as either a supporting organization or a media partner for the masterclass, please call **020 8996 7497** or email [simon.anderson@bsigroup.com](mailto:simon.anderson@bsigroup.com)

## Continuing professional development (CPD)

All BSI Masterclasses can be used for CPD purposes and certificates of attendance are available on request.

# Is your business ready?

## FIVE EASY WAYS TO BOOK

### DELEGATE DETAILS

<b>1</b> Mr/Ms/Miss/Mrs/Dr/Other	First Name(s)
Surname	
Job Title	Organization
Address	
	Postcode
	Country
Tel	Fax
Email	
<b>2</b> Mr/Ms/Miss/Mrs/Dr/Other	First Name(s)
Surname	
Job Title	Organization
Address	
	Postcode
	Country
Tel	Fax
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BSI Membership No. (if applicable)	

### PRICING

Early bird pricing (Book by 17 January 2010) Please ✓ your selection(s)	Standard rate	SME rate	Public sector rate
One day attendance	<input type="checkbox"/> £260.00 + VAT	<input type="checkbox"/> £241.00 + VAT	<input type="checkbox"/> £220.00 + VAT
Two day attendance	<input type="checkbox"/> £508.00 + VAT	<input type="checkbox"/> £488.00 + VAT	<input type="checkbox"/> £468.00 + VAT
Three day attendance	<input type="checkbox"/> £740.00 + VAT	<input type="checkbox"/> £720.00 + VAT	<input type="checkbox"/> £700.00 + VAT
Four day attendance	<input type="checkbox"/> £920.00 + VAT	<input type="checkbox"/> £900.00 + VAT	<input type="checkbox"/> £880.00 + VAT
Standard pricing (from 17 January 2010) Please ✓ your selection(s)	Standard rate	SME rate	Public sector rate
One day attendance	<input type="checkbox"/> £325.00 + VAT	<input type="checkbox"/> £299.00 + VAT	<input type="checkbox"/> £275.00 + VAT
Two day attendance	<input type="checkbox"/> £635.00 + VAT	<input type="checkbox"/> £610.00 + VAT	<input type="checkbox"/> £585.00 + VAT
Three day attendance	<input type="checkbox"/> £925.00 + VAT	<input type="checkbox"/> £900.00 + VAT	<input type="checkbox"/> £875.00 + VAT
Four day attendance	<input type="checkbox"/> £1150.00 + VAT	<input type="checkbox"/> £1125.00 + VAT	<input type="checkbox"/> £1100.00 + VAT

#### Discounts:

If you have 5 or more delegates, please contact +44 (0)20 8996 7744 about group packages.

Please note: Please indicate your preferred session in each stream when booking.

**Total Payable: £**

### PAYMENT DETAILS

Cheque: Please make payable to **BSI**

Credit Card: Please complete as follows

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Expiry Date     Cardholder Name

Please debit my/our Credit Card to the sum of £

Signature  Date

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389 Chiswick High Road

London

W4 4AL

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#### Conference Information

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#### Terms and Conditions:

All cancellations and name change requests must be made in writing to the Head of Delegate Administration either by email, fax or letter and will be acknowledged in writing.

Contact details are:

Head of Delegate Administration Customer Services

BSI

BSI Group Headquarters

389 Chiswick High Road

London W4 4AL

Fax: 020 8996 7001

Email: [cservices@bsigroup.com](mailto:cservices@bsigroup.com)

A full refund will be given if you cancel earlier than one calendar month before the event. If you cancel after that date or do not attend, no refund will be given.

There is no charge to request a delegate name change. If you are travelling from overseas we recommend you confirm your visa (if applicable) before booking your place.

All bookings for events are subject to VAT (or local equivalent if the event is not held in the UK) and payment terms of 30 days. If you are a non UK company you may be entitled to claim back the VAT through HMRC. (see [www.hmrc.gov.uk](http://www.hmrc.gov.uk) for more information).

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BSI reserves the right to cancel the event, in which case a full refund will be given. BSI does not accept liability for any travel, accommodation or any other costs.

Delegate contact details will not be passed to any third party; however the conference handbook will include a list of delegate and company names correct at the time of print. The handbook is protected by copyright.

Attendees are not permitted to record any part of the event. All conferences will be delivered in English unless otherwise stated.

