Advanced structural Concrete design

(Virtual Classroom)
Supported by UTAP & SkIllsFuture Credit

IES Academy Virtual Classroom

Introductions

This course covers topics rarely covered to any great extent at undergraduate level. The emphasis is on hand-based methods. They can be used directly for design, or for the checking of computer-based designs.

Objectives

The course provide an alternate design method of equal difficulty to conventional procedures; it will be found that many problems can be tackled surprisingly easily using these powerful methods. The methods are an aid to understanding. Many work examples are presented showing how the various methods can be used. The emphasis is on the use of the methods for practical problem solving.

Pre-requisites

Prior to attending this course, you should:

1. Have a PC / laptop / tablet / smart phone with built-in or external webcam.
2. Installed the zoom client.
3. Have Wi-Fi / high speed internet connection available.
4. Receive an email with a link for you to submit a registration for webinar 1 week prior to the commencement.
5. Receive an email with a link and password for you to join the webinar session after your registration is successful.

Details

Date : 2 June 2020

Time : 9.00 a.m. – 5.15p.m.

Duration: 1 Day

Delivery Mode: Zoom Webinar

CPD : 7 PDU / 6 STU
(Confirmed)

Course Fee (include GST):
IES Member: $ 239.70
Non-member: $ 282.50

E-certificate of Attendance will be awarded to participants who have completed the course survey and assessment.

Target Audience

- **Designers**
- **Engineers**

SFC reference no: 2020IESA5B

IES Academy@Jurong East
80 Jurong East Street 21, #04-10
Devan Nair Institute for Employment and Employability
Singapore 609607

Contact Person: Joyce Foo
DID: 6461 1238 Main Line: 6463 9211
E-mail: joyce.foo@iesnet.org.sg

Course Outline

Design Methods: Elastic and Plastic based design; lower/upper bound and uniqueness theorems of plastic collapse and their importance in every-day elastic-based design; redistribution: the half-way house"; limitations of commonly used elastic-only software will be presented.

Plastic Design: Suitable for the design of beams and one-way slabs. Plastic design of beams, as well as slabs, is now allowed (allowed by the current code, EC2 but not by the previous code, BS8110), so it is timely to review the benefits of a plastic-based design**.**

Strut-and-tie Method: Suitable for the design of reinforced concrete deep beams, pile caps and corbels.

Yield-Line Method: Suitable for the design of one-way and two-way slabs, both regular and irregular flat slabs, transfer slabs and rafts.

Reinforcement Detailing: Discussion of curtailment of top and bottom reinforcement; common detailing errors.

Trainers' Profile

Er. Dr Niall MacAlevey is currently an independent consultant specializing in the analysis and design of reinforced and prestressed concrete structures, forensic engineering and the strengthening of concrete structures. He is the founder of the firm ''Shamrock Consultants" and is a registered Professional Engineer in Singapore.

After graduating from University College Dublin, Ireland in 1987 with a B.E (Civil) degree, he then obtained his M.Sc. degree in "Concrete Structures" at Imperial College, London in 1988. He completed his Ph.D degree at the Nanyang Technological University in 1997 on "The Strengthening of Concrete Structures" and later joined the academic staff there. He obtained a PGDipTHE (Post-Graduate Diploma in Teaching in Higher Education) from the National Institute of Education in 2001. He has worked for a number of consulting engineering firms and specialist prestressing subcontractors in London, Cambridge, Hong Kong and Singapore. He is the author of four books "Structural Engineering Failures: lessons for design", Preliminary Design of High-Rise Buildings in Non-Seismic Regions, Design of Reinforced Buildings to Resist Blast and Prestressed Concrete in Buildings. All books are available from Amazon.com

Advanced Structural Concrete Design

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Fee after 20% off (include GST):   IES Member: $239.70   Non-member: $282.50

Please register online/email the completed form by **26/05/2020 before 5.00 p.m.** to:

Contact Person: Joyce Foo

IES Academy@Jurong East

80 Jurong East Street 21, #04-10

Devan Nair Institute for Employment and Employability

Singapore 609607

Tel: **6461 1238**

Participant Details

*Name   : _____   ***NRIC**   : _____

(Please written in BLOCK Letter)

Company   : _____   ***Designation**_____

*Address 1   : _____

(For mailing of invoice and receipt)

*Postal Code : _____   Sex   : _____Male / Female _____

*Contact No. : _____   Fax   : _____

*Your Email   : _____

(For sending of confirmation email, preferable personal unless company sponsored)

Please indicate: ☐ IES members   IES M'ship No.: _____   P.E. No.: _____ (if applicable)

☐ Non-members   Affiliated member: _____

☐   Sponsored by company (*Please indicate the Contact person detail*)

Contact Person Details *(if different from participant)*

#Name   : _____   #Designation : _____

#Contact No.   : _____   Fax   : _____

#Email   : _____

Payment Details

Bank / Cheque No :_____   Amount ($): _____

~ All Fees are inclusive of 7 % GST.

Acceptance of Terms and Conditions for Registrations of IES Academy's Events

I agree to abide by the Terms and Conditions for Registration of IES Academy's Events.

Name : _____   Signature : _____

*Mandatory entry

#Compulsory Entry for participant who choose to be INVOICE to your company

e-learning flyer 1.0

TERMS & CONDITIONS COURSE REGISTRATION

Registration

Any registration, whether on-line or fax will be on a _**first-come-first-served basis**_ and will only be confirmed upon receipt of full payment by Engineers Singapore Pte Ltd unless otherwise invoice to company.

All registrations must be submitted with duly completed registration form.

Closing Date

The closing date of the event will be 1 week prior to event commencement date or earlier.

Confirmation of Registration

Confirmation of registration will be given at least 1 week before the commencement date via email. _**If you do not receive the said confirmation email, you are required to contact IESA at 6463 9211 during office hours.**_

IESA reserves the right to allow only confirmed registrants to attend the Event.

Withdrawals/Refunds of Fees

Written notice _**at least 1 week in advance**_ before the commencement of the event

Full course fee shall be refunded subjected to 4.5% transaction charge.

➢ **NO** refund otherwise.

No show of participant would not be accepted as a valid reason for withdrawal/refund.

One-time replacement is allowed only if written notice is received by us at least 1 week before the commencement of the event. However, when an IES member is replaced by a non-member, the participant has to pay the difference in the relevant fees.

Cancellation/Postponement

Changes in Venue, Dates, Time and Speakers for the Events can occur due to unforeseen circumstances. IES reserves the full rights to cancel or postpone the Event under such circumstances without prior reasons. Every effort, however, will be made to inform the participants or contact person of any cancellation or postponement.

Fees will be refunded in FULL if any Event is cancelled by IESA.

UTAP (Union Training Assistance Programme) is an individual skill upgrading account especially for NTUC members. As a member, you enjoy UTAP funding at 50% of the unfunded course fee capped at $250 every year.
Please visit HERE for more information on UTAP claim.

PERSONAL DATA PROTECTION ACT
I consent to the processing by Institution of Engineers, Singapore of personal data, including sensitive personal data as defined in the Data Protection Act 2014, about me for the proper purposes of Institution of Engineers, Singapore (IES). I undertake to observe the provisions of the Data Protection Act 2014 in relation to any personal data I may myself hold and process as a Members of Institution of Engineers, Singapore, and I agree to indemnify Institution of Engineers, Singapore from liability for any claims or damages that may arise from the processing of this data. For more information kindly refer to here.

Enquiries
For further enquiries, please contact IESA general office at Tel: 6463 9211.