भारतीय प्रौद्योगिकी संस्थान गुवाहाटी
Indian Institute of Technology Guwahati

Short Term Course

Recent Advances in the Indian Seismic Codes – IS1893 and IS13920

19 – 23 November 2018

Conducted by:
Department of Civil Engineering

Organized by:
Knowledge Incubation for TEQIP
Centre for Educational Technology
URL: http://www.iitg.ac.in/cet

ABOUT THE COURSE

The primary objective of the course is to disseminate the information and knowledge on the new features in the recently revised Indian Seismic and Ductile Detailing codes for buildings (IS1893-Part 1 and IS13920), and abreast the participants with fundamentals of seismic design procedures for multistory reinforced concrete buildings. The participants will get an insight on the seismic design concepts provided in the current codes via lectures, hands-on-training, laboratory visits, and software demonstration by expert faculty and research scholars.

COURSE CONTENTS

- General principles and design criteria for earthquake hazard assessment, load combinations, design acceleration spectrum to be used for determining design seismic force.
- Detail provisions on buildings covering building configurations, plan irregularities and vertical irregularities.
- Different analysis types recommended in the code, Capacity design concept in seismic design of buildings, estimation of design lateral loads on buildings.
- Reinforced concrete frame buildings with unreinforced masonry infill walls, flat slab structures, permissible deformation limits.
- Strong column weak beam principle, ductility provisions for frame members and shear walls.
- Procedure for evaluation of liquefaction potential of soils.
- Hands on training on design earthquake load evaluation, software demonstration, and laboratory demonstration.

Topics to be covered

- Introduction to the seismic design principles
- Seismic hazard assessment using Indian seismic code, lateral load estimation for building systems
- Issues related to several types of irregularities
- Capacity design concept
- Consideration of masonry infill walls in seismic design
- Ductility provisions for frame members and shear walls
- Evaluation of liquefaction potential
- Hands on training on estimation of design lateral loads
- Training on use of computer for earthquake load estimation
- Laboratory classes on understanding simple principles related to structural dynamics and earthquake engineering

ELIGIBILITY

The course is open to faculty members and students from TEQIP mapped Institutions/Engineering Colleges/Affiliating Technical Universities (ATUs). A refundable fee of Rs. 2000/- will be charged from these participants who can claim the refund after attending the course. TA and DA for these eligible participants will be reimbursed from their respective institutions.

Faculty members, students, engineers, and others working in Non TEQIP mapped institutions and industries are also welcome to attend the course by paying the registration fee as follows:
Students: Rs. 7500/- (non-refundable)
Others: Rs. 15000/- (non-refundable)
The fee includes overhead charges, course kit, lecture notes, refreshment and lunch during the course, lab visits.

BOARDING AND LODGING

Boarding and lodging facilities (Guest House rooms on shared basis/Hostel rooms or other permissible accommodation) will be provided to the participants from TEQIP mapped institutions. For all other participants, the boarding and lodging will be provided on payment basis.

SELECTION CRITERIA

Number of seats: 30
Selection will be based on first come first served basis subject to the deposition of the registration fee (Rs. 2000/7500/15000) in the form of a demand draft in favor of "Registrar, IIT Guwahati" payable at Guwahati.

IMPORTANT DATES

01/10/2018: Last date of receiving the scanned application and DD (by email)
15/10/2018: Last date of receiving the hard copy of application form and DD
16/10/2018: Intimation of selection

COURSE COORDINATORS

Dr. Hemant B Kaushik and **Dr. Sandip Das**
Department of Civil Engineering
Indian Institute of Technology Guwahati
Guwahati - 781 039

Phone: 0361 2582427, 0361 2582404
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Please send the application form, nomination/sponsorship form, and demand draft by email (scanned copy) as well as postal/courier service to the course coordinators.

WEBSITE
http://www.iitg.ac.in/hemantbk/stc2018.html

Application Form

1. Name (block letters):

2. Gender: ☐ Male ☐ Female

3. Category: ☐ General ☐ SC ☐ ST ☐ OBC

4. Highest Academic Qualification:

5. Specialization:

6. Designation & pay scale:

7. Name of the organization:

8. Experience:

    (a) Teaching: (b) Industrial:

9. Address for communication:

   Mobile No.:   E-mail:

10. Choice of Accommodation: ☐ Guest House

   ☐ Hostel   ☐ Will make my own arrangement

11. DD: Amount Rs._____ No._____ Dated _____

Please register me for the course on **"Recent Advances in the Indian Seismic Codes – IS1893 and IS13920"** to be held at IIT Guwahati.

I am sending an advance soft copy of this application along with a scanned copy of the demand draft by email to the coordinator of the course.

I undertake to send the Hard copy signed by the Head of my Institution along with the original demand draft.

Place:

Date: *Signature of the applicant*

SPONSORSHIP / NOMINATION CERTIFICTE

Prof/Dr./Mr./Ms./Mrs./..

....

is an employee of our institute and his/her application is hereby sponsored/nominated. The applicant is permitted to attend the short-term course **"Recent Advances in the Indian Seismic Codes – IS1893 and IS13920"** at IIT Guwahati during 19/11/2018 to 23/11/2018 if selected.

I also certify that our institute/college is under the "Institution List" of 3rd phase of TEQIP Project of MHRD.

Date   Signature of Authority

                                                Designation

                                                Official Seal

ABOUT TEQIP

TEQIP conceived in pursuance of the NPE-1986 (revised in 1992) by Govt. of India as a long term program to be implemented in different phases. After successful execution of TEQIP II, TEQIP III starts from 2017-18 as Central Sector Scheme with a focus on the Low Income States, Northeast, Hill States and Islands. The third phase of TEQIP is also special in a way that it incorporates twinning arrangements between mentee & mentor institutions with an emphasis on Focused Training (PT) and Focused Interventions from IITs in terms of deliverables and accountability. KIT, established at IIT Guwahati under 2nd phase of TEQIP is a focal point for training Faculty, Staff and students from TEQIP-III institutions in Knowledge Engineering, Content Creation, Improving Teaching, Pedagogy & administrative skills in identified niche areas/disciplines.

ABOUT KIT

KIT (**K**nowledge **I**ncubation Cell for **T**EQIP) at IIT Guwahati functions as a multi-disciplinary as well as interdisciplinary Innovation Incubation Centre with a focus to impart Knowledge, infusing innovation and leading a path to achieve academic excellence. Its activities are in the area of improving quality of technical education, incubator of Innovative Ideas; implementer of contemporary pedagogy practices and development of Learning Content in Technical institutions while mentoring them.

ABOUT IIT GUWAHATI

IIT Guwahati campus is spread over a sprawling 785 hectares plot of green land on the north bank of the river Brahmaputra around 25 km from the heart of the city. With hills and vast open spaces, the campus provides an ideal setting for training.

The Department of Civil Engineering since its formation is committed to research and development in Societal Infrastructure. The vision of the department is to give an exposure to Civil Engineers to various challenges in the profession. The department offers courses at B.Tech., M.Tech. and Ph.D. programs. The main areas of research include Earth System Science and Engineering, Environmental Engineering, Geotechnical Engineering, Infrastructure Engineering and Management, Structural Engineering, Transportation Engineering and Water Resources Engineering. The department also provides consultancy services for challenging infrastructure projects.

Details on how to reach IITG Campus are available on the institute website: www.iitg.ac.in