

APPLICATION FORM

AICTE QIP
Short Term Training Programme

Design of Steel Buildings for Earthquake and Fire

Name:
(in block letters)

Highest Educational Qualification:

Designation:

Organization:

Postal Address:

eMail Address:

Mobile No:

Phone No:

Experience (in years):
(a) Teaching (b) Industrial

Courses Taught in last 2 years:

All data provided are true to the best of my knowledge and belief.

Signature of the Applicant
Place:
Date:

FORWARDING CERTIFICATE

(Required for Teachers from AICTE recognized
Engineering Institutions)

Certified that Professor / Dr. / Mr. / Ms. / Mrs.

is an employee of this Institute and will be relieved of his/her duties here for attending the AICTE QIP Short Term Training Programme on *Design of Steel Buildings for Earthquake and Fire* to be conducted at the Department of Civil Engineering, Indian Institute of Technology Madras during *15-20 March 2021*.

Signature of the sponsoring authority
with date and seal

Note: No course fee is charged for participants sponsored by AICTE approved Institutions.

Mail to:

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AICTE QIP SHORT TERM TRAINING PROGRAMME

on

Design of Steel Buildings for Earthquake and Fire

Programme Dates

15 - 20 March 2021

Coordinators

**P S Lakshmi Priya
&
Rupen Goswami**

Sponsored by

All India Council for Technical Education



Organized by

**Department of Civil Engineering
Indian Institute of Technology Madras**

BACKGROUND

The proposed short-term course is designed to help enhance and strengthen basic knowledge of design of steel structures. Steel is increasingly used as a material of construction of long-span structures and tall buildings. With focus on rapid development in the country, design of steel structures is going to be in demand in the future and engineers will have to be ready to face this task.

Design of steel structures requires fundamental understanding of stability behaviour of relatively slender structural members under various types of loading. In addition to gravity loads, these structures are often subjected to extreme loading conditions, such as earthquake shaking and exposure to fire. With limited provisions available in design codes to design steel structures for these two unique loading conditions, this course is designed to provide understanding on four basic fronts of structural design, namely (1) *Basic Design*, (2) *Earthquake Resistant Design*, (3) *Fire Resistant Design*, and (4) *Retrofit Design* of steel buildings.

COURSE CONTENT

This course is designed to enable participants to teach and/or design regular low-rise steel buildings to resist earthquake shaking and fire loading. For this purpose, first the fundamental principles of design of steel members will be discussed in the context of resisting gravity loading. Then, the fundamentals of earthquake resistant design and fire engineering will be introduced with focus on designing steel structural members and connections to resist these actions. Also, some retrofit strategies for steel buildings will be discussed in the context of earthquake and fire damages. Finally, hands-on tutorial sessions will be conducted to help the participants understand the analytical components of structural design.

The broad topics of discussion will include:

1. Introduction to steel as a structural material
2. Compression member design
3. Flexural member design
4. Design of fasteners and connections
5. Earthquake resistant design
6. Fire engineering
7. Retrofit of steel buildings exposed to earthquake and fire.

MATERIAL

Each registered participant will be provided with a set of lecture notes.

FACULTY

P S Lakshmi Priya, IIT Madras
Rupen Goswami, IIT Madras

ONLINE MODE

The training program will be conducted in *online mode* using either MS Teams or Webex platform.

IMPORTANT DATES

Receipt of Applications at IIT Madras
on or before ~~01 March 2021~~
07 March 2021

Intimation to Selected Candidates by eMail
~~05 March 2021~~
11 March 2021

Confirmation by Selected Candidates by eMail
~~08 March 2021~~
14 March 2021

IMPORTANT LINKS

Center for Continuing Education, IITM
<http://www.cce.iitm.ac.in/>

Department of Civil Engineering, IIT Madras
<https://civil.iitm.ac.in/>

Course Coordinator Profile
Dr. P S Lakshmi Priya
https://civil.iitm.ac.in/?page_id=816