

Registrations

OPEN

From
25th June 2025



ANALYSIS AND DESIGN OF PRECAST BUILDING SYSTEMS

Dec 15th, 2025 - Dec 23rd, 2025

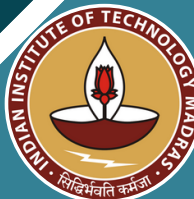


IOWA STATE
UNIVERSITY
College of Engineering

PROF. SRI SRITHARAN
FOREIGN EXPERT
IOWA STATE UNIVERSITY, USA



PROF. S. SURIYA PRAKASH
INDIAN EXPERT
IIT HYDERABAD



PROF. AMLAN SENGUPTA
INDIAN EXPERT
IIT MADRAS



This course aims to,

- Discuss opportunities and challenges in the precast industry.
- Highlight the durability and sustainability of materials in precast construction.
- Explain the analysis and design aspects of various precast systems.
- Address the seismic and wind performance of precast buildings.
- Discuss planning and machinery considerations for precast fabrication and erection.
- Emphasize quality control and assurance in large-scale precast construction.



Teaching Experts



Dr. Sri Sritharan is a Wilkinson Chair Professor in the College of Engineering at Iowa State University. He specializes in earthquake-resistant design, precast systems, UHPC, and wind engineering. He earned his PhD in Structural Engineering from UC San Diego and has led numerous research projects funded by national and state agencies. His career includes significant contributions to the PRESSS program and leadership roles in research and graduate education.



Dr. S. Suriya Prakash, a Professor at IIT Hyderabad, is a recipient of the Ramanujan Fellowship with 15 years of experience. He holds a Ph.D. from Missouri University (2009) and an M.S. from IIT Madras (2005). His research focuses on advanced composites, precast housing, and structural rehabilitation.



Dr. Amlan Sengupta is a Professor at IIT Madras with expertise in precast prestressed concrete, structural analysis, and seismic retrofitting. He earned his B.Tech from IIT Kharagpur, MS from Rice University, and PhD from the University of Missouri-Rolla. Before academia, he worked with Ove Arup Partners and has published extensively on concrete behavior and strengthening techniques.



COURSE CONTENT



Day 1: Introduction to Precast Construction.

Lecture 1: Basics of Prestressed Concrete.

Lecture 2: Introduction to Precast Concrete Buildings with reference to ICI Handbook

Lecture 3: Overview of Different Precast Concrete Building Systems.

Day 2: Overview of different Precast Structural Systems.

Lecture 1 : Total Precast Systems and Preliminary Design.

Lecture 2 : Analysis and Design of Precast Structures.

Lecture 3 : Material Aspects for Durable and Sustainable Precast Structures.

Lecture 4 : Manufacturing of Elements and Erection Considerations in Precast Building

Day 3: Overview of Precast Components and Connections.

Lecture 1 : Design of Precast, Prestressed Concrete Components.

Lecture 2: Design and Detailing of Connections I & II.

Lecture 3: Plant and Machinery Considerations for Producing Precast Elements.

Day 4: Design of Precast Systems for Lateral Loads.

Lecture 1 : Overview of Seismic and Wind Design Considerations.

Lecture 2: Seismic Performance of Precast Concrete Buildings.

Lecture 3: Conceptual Design-Tutorial (Cast-insitu vs Precast)

Lecture 4: Design example on Seismic Performance- Tutorial.

Day 5: Production Consideration of Precast Elements.

Lecture 1: Conceptual Design-Tutorial (Cast-insitu vs Precast)

Lecture 2: Planning Aspects of Precast Building.

Lecture 3: Quality Assurance Aspects & Testing.

Day 6: Precast Plant Visit.

Lecture 1 : Demonstration of Precast Element Production and Machinery.

Day 7: Planning and Quality Control Aspects.

Lecture 1 : Case Studies in Large-Scale Precast Construction

Lecture 2: Recent Innovation in Seismic Consideration of Precast Buildings

Lecture 3: Loads Analysis on Stability Components: Wind, Seismic, and Restrain Load Case

Lecture 4: Tutorial Sessions

Day 8: Case Studies in Large-scale Precast Construction.

Lecture 1 : Typical Stability Elements, Arrangements of Stability Elements, Horizontal Load Distribution through Shear Walls

Lecture 2: Design of Precast Building Overview

Lecture 3: Structural Engineering Lab Visit & Demonstration of Precast Element Testing

Back-up Lecture

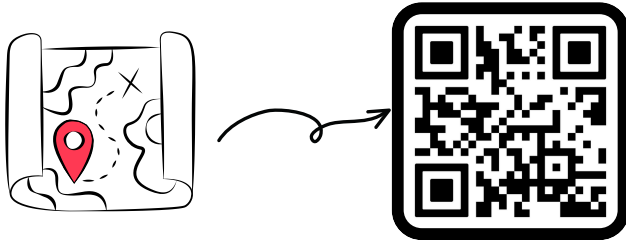
Special Components of precast Buildings: corbels, deep beams, structural walls

WHO CAN ATTEND

- Executives, engineers, and researchers from the precast industries, other manufacturing and service industries, and government organizations, including R&D laboratories.
- Students at all levels (BTech/MSc/MTech/PhD/PostDoc.) or faculty from reputed academic and technical institutions.

VENUE

**Department of Civil Engineering
Indian Institute of Technology Hyderabad
Kandi, Sangareddy, Telangana - 502284**



REGISTRATION FEE

IITH Student - Rs. 1,000

Other Institute Student - Rs. 1,500

Faculty / Scientist - Rs. 10,000

Industry Participants - Rs. 20,000

*** 18% GST will be charged on the above fee
except for student from IIT Hyderabad.**

ACCOMODATION

For outstation students a limited accommodation is available on the campus. Payment shall be made directly to the Hostel office (Not included in registration fee)

For Registration

Scan the QR Code



**Or
Use Below Link**

<https://forms.gle/k9DAso8tFysDBXnV6>

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