L&T EduTech

Construction of Precast System

This course is part of **Precast Structural System Specialization**

Instructor: Subject Matter Expert

Included with coursera PLUS • Learn more

4 modules
Gain insight into a topic and learn the fundamentals.

Advanced level
Recommended experience

8 hours to complete

Flexible schedule
Learn at your own pace

What you'll learn

- ✓ Gain practical knowledge in designing, casting, handling, and erecting precast elements, ensuring quality control and compliance.
- ✓ Understand the design criteria, load analysis, and preventive measures required for safe, efficient, and durable precast construction

Skills you'll gain

Structural Engineering | Shop Drawing | Construction Engineering | Construction Management | Building Codes | Building Design | Manufacturing Processes | Structural Analysis | Engineering Calculations | Construction Inspection | Product Testing | Engineering Tolerance | Engineering Practices | Architectural Drawing | Construction | View less skills

Details to know

Shareable certificate
Add to your LinkedIn profile

Taught in English

Assessments
4 assignments

See how employees at top companies are mastering in-demand skills

PETROBRAS TATA DANONE
Capgemini P&G L'ORÉAL

Build your subject-matter expertise

This course is part of the **Precast Structural System Specialization**
When you enroll in this course, you'll also be enrolled in this Specialization.

- Learn new concepts from industry experts
- Gain a foundational understanding of a subject or tool
- Develop job-relevant skills with hands-on projects
- Earn a shareable career certificate

There are 4 modules in this course

This comprehensive course on the construction of precast systems covers all essential aspects, starting with an introduction to types of precast systems and their production processes. It delves into the creation of design and shop drawings, the preparation of moulds, and good casting practices. It also addresses the various methods of casting, concreting, and curing, followed by demoulding and inspection procedures. The course further explores the storage, delivery, handling, and erection of precast components, including quality inspection and tolerances. Preventive measures are discussed, focusing on testing requirements, water tightness, temporary supports, and MEP-related issues, alongside common defects and remedies. Lastly, the course covers design basis criteria, including geometric parameters, occupancy, location-specific factors, material specifications, analysis tools, and load considerations, encompassing gravity loads, seismic parameters, wind loads, and load combinations.

Target Learners:
- Undergraduate students of Civil Engineering
- Post-Graduate Students of Geotechnical Engineering
- Practicing Engineers in Pile Construction based projects.
- Faculties of Civil Engineering Domain

Pre-requisites:
- Analytical skill for determinate & indeterminate structures and design knowledge of reinforced concrete members
- Exposure to codes and standards (Indian standard codes for concrete, wind and earthquake design)

Read less

Plant and Production

Module 1 • 2 hours to complete

Module details

This module introduces the precast system, detailing its types, processes, and the critical stages of production from initial design to shop drawings, casting, and curing, emphasizing best practices and quality control.

What's included

16 videos 1 assignment

Hide info about module content

16 videos • Total 115 minutes

About the Specialization • 3 minutes

About the Course • 2 minutes

Introduction and Types • 6 minutes

Process • 12 minutes

Production-Design and Shop Drawings - Part 1 • 7 minutes

Production-Design and Shop Drawings - Part 2 • 13 minutes

Checklists • 3 minutes

Mould • 13 minutes

Mould-Good practice • 6 minutes

Casting • 1 minute

Types of Casting - Part 1 • 10 minutes

Types of Casting - Part 2 • 6 minutes

Concreting • 4 minutes

Curing- Part 1 • 11 minutes

Curing - Part 2 • 6 minutes

Demoulding and Inspection • 4 minutes

1 assignment • Total 30 minutes

Assessment on Plant and Production • 30 minutes

Storage, Delivery, Handling, Erection and Quality Inspection

Module details

Module 2 • 2 hours to complete

This module covers the logistical aspects of precast elements, including storage, delivery, handling, and the erection process, focusing on equipment and techniques for safe and efficient installation.

What's included

12 videos 1 assignment

Hide info about module content

12 videos • Total 104 minutes

Storage • 11 minutes

Delivery • 7 minutes

Handling • 5 minutes

Handling Equipment's • 12 minutes

Handling and Lifting devices- Part 1 • 9 minutes

Handling and Lifting devices- Part 2 • 8 minutes

Installation-Erection - Part 1 • 6 minutes

Installation-Erection - Part 2 • 7 minutes

Installation of Horizontal components • 8 minutes

Installation of Vertical components • 8 minutes

Installation of Special Elements • 7 minutes

Quality Inspection and Tolerance • 10 minutes

1 assignment • Total 30 minutes

Assessment on Storage, Delivery, Handling, Erection and Quality Inspection • 30 minutes

Preventive Measures

Module details

Module 3 • 1 hour to complete

This module addresses preventive measures during precast construction, covering testing requirements, water tightness, temporary supports, MEP integration, and measures against progressive collapse and common defects.

What's included

8 videos 1 assignment

Hide info about module content

8 videos • Total 70 minutes

Testing requirements • 8 minutes

Water tightness • 9 minutes

Temporary supports • 9 minutes

MEP related preventive measures • 6 minutes

Progressive Collapse-Introduction • 6 minutes

Common defects and remedies Part 1 • 12 minutes

Common defects and remedies Part 2 • 9 minutes

Common defects and remedies Part 3 • 7 minutes

1 assignment • Total 30 minutes

Assessment on Preventive Measures • 30 minutes

Design Basis Criteria, Loads and Load Combinations

Module details

Module 4 • 2 hours to complete

This module focuses on the design basis criteria for precast structures, including geometric parameters, occupancy considerations, location-specific factors, material specifications, and load combinations for gravity, seismic, and wind loads.

What's included

11 videos 1 assignment

Hide info about module content

11 videos • Total 90 minutes

Introduction • 3 minutes

Geometric parameters and Occupancy • 8 minutes

Location and Associated Parameters • 12 minutes

System and Material Specifications • 7 minutes

Requirements • 10 minutes

Analysis tools and Multiple Teams • 5 minutes

Gravity loads • 9 minutes

Lateral Loads-Seismic • 2 minutes

Seismic Parameter's • 11 minutes

Lateral Loads-Wind • 9 minutes

Load combinations • 8 minutes

1 assignment • Total 30 minutes

Assessment on Design Basis Criteria, Loads and Load Combinations • 30 minutes

Earn a career certificate

Add this credential to your LinkedIn profile, resume, or CV. Share it on social media and in your performance review.

Instructor

Subject Matter Expert
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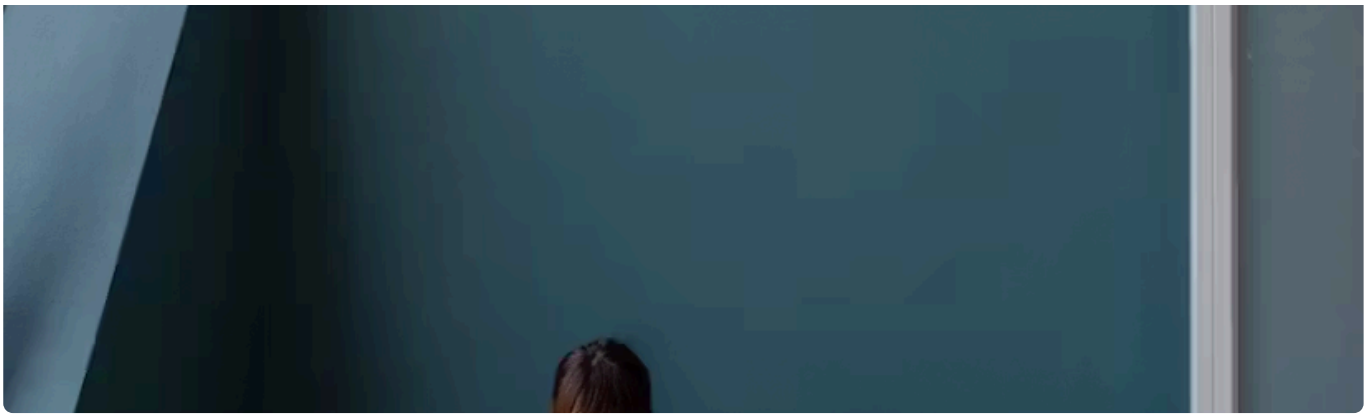

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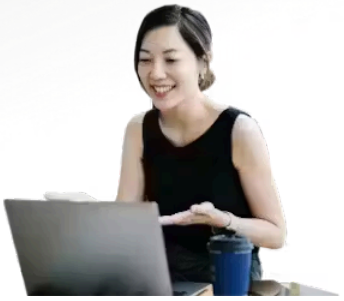

Frequently asked questions

When will I have access to the lectures and assignments?

To access the course materials, assignments and to earn a Certificate, you will need to purchase the Certificate experience when you enroll in a course. You can try a Free Trial instead, or apply for Financial Aid. The course may offer 'Full Course, No Certificate' instead. This option lets you see all course materials, submit required assessments, and get a final grade. This also means that you will not be able to purchase a Certificate experience.

What will I get if I subscribe to this Specialization?

When you enroll in the course, you get access to all of the courses in the Specialization, and you earn a certificate when you complete the work. Your electronic Certificate will be added to your Accomplishments page - from there, you can print your Certificate or add it to your LinkedIn profile.

Is financial aid available?

Yes. In select learning programs, you can apply for financial aid or a scholarship if you can't afford the enrollment fee. If fin aid or scholarship is available for your learning program selection, you'll find a link to apply on the description page.

More questions

Visit the learner help center

Financial aid available, learn more

Skills

- Artificial Intelligence (AI)
- Cybersecurity
- Data Analytics
- Digital Marketing
- English Speaking
- Generative AI (GenAI)
- Microsoft Excel
- Microsoft Power BI
- Project Management
- Python

Certificates & Programs

- Google Cybersecurity Certificate
- Google Data Analytics Certificate
- Google IT Support Certificate
- Google Project Management Certificate
- Google UX Design Certificate
- IBM Data Analyst Certificate
- IBM Data Science Certificate
- Machine Learning Certificate
- Microsoft Power BI Data Analyst Certificate
- UI / UX Design Certificate

Industries & Careers

- Business
- Computer Science
- Data Science
- Education & Teaching
- Engineering
- Finance
- Healthcare
- Human Resources (HR)
- Information Technology (IT)
- Marketing

Career Resources

- Career Aptitude Test
- Examples of Strengths and Weaknesses for Job Interviews
- High-Income Skills to Learn
- How Does Cryptocurrency Work?
- How to Highlight Duplicates in Google Sheets
- How to Learn Artificial Intelligence
- Popular Cybersecurity Certifications
- Preparing for the PMP Certification
- Signs You Will Get the Job After an Interview
- What Is Artificial Intelligence?

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