

**CIVIL ENGINEERING INDUSTRIAL INTERNSHIP (CEII)**  
**India's one and only Course work based Internship**  
**Exclusively on**  
**CIVIL ENGINEERING & CONSTRUCTION**  
**TECHNOLOGIES**  
**With**  
**Industry expert sessions, Factory & Site**  
**Visits, Team based Industry Projects**  
**7 Days 60\* Hours Intensive Certified Internship**

## **Internship Structure**

### **Day wise – Session Plan**

- Day 1 – Basics of structures & Transportation structure design + Project Allocation  
Day 2 -Field Lab 1 – Surveying/NDT – Basic operations training – Total Station, DGPS etc.  
Day 3 – Industry Visit 1 – Visit to a construction site to learn onsite procedures.  
Day 4 – Industry Visit 2 – Visit to a construction materials manufacturing facility with experts Interaction.  
Day 5 – Industry Visit 3 – Visit to a concrete/reinforcement products related factory with experts Interaction.  
Day 6 – Precast Technology & Earth quake resistant/Seismic structure design  
Day 7 – Career Guidance & Presentation of project and Award Ceremony

### **Day 1 - Basics of various structural design + Project Allocation**

#### **Reinforced Structural Construction**

- Planning Phase, Design Phase, Construction Phase
- Adoption of Adequate Structural System
- Design Codes & Handbooks
- Basic Design Consideration

#### **Analysis & Design**

- Safety, Serviceability & Economy
- Design Philosophies

- Behavior of Flexure, Shear & Bond

## **Tall Building Design** – Philosophies, Practices, Codes followed and tools used

- Wind tunnel study
- Various Load considerations
- Various tools used
- Material consideration

## **Transportation Structure Design**

- Advanced Materials in pavements and other Transport structures like Airports
- Metro, Bridges & Flyovers
- Activity of Transportation design structure

## **Structural Design Philosophy**

- Various Phases From Planning to Execution Of Transport systems

## **Special Load Cases**

- Seismic
- Wind
- Snow
- Dust
- Blast
- Hydrostatic
- Moving Loads
- Erection loads, Crane Loads and other Construction Loads
- Load combination

## **Project Phase**

Students will be assigned in to teams and allotted a civil project on 1<sup>st</sup> day of the course and mentored by our in house expert's team/visiting faculties.

## **Day 2**

### **Introduction to Civil Surveying or Civil NDT**

- Role of surveying at various stages of construction
- Equipment's & Other tools (eg Total Station, Autolevel, GIS, Laser Distance meter, Ultrasonic Wall Scanner and Rebar Scanner etc)
- Hands on Training – All Basic operations in latest Total station & DGPS\*\*

## Day 3

### Advanced Surveying or NDT

- Various Advanced Surveying techniques and practices
- Differential GPS (DGPS) – How it functions and techniques used in surveying.
- Survey project – Students will be split into teams and provided with Survey project to implement all the techniques they learned and submit it as a report.
- Various NDT Techniques used in the construction Industry.

## Day 4 & 5 – Industry Visits

- To construction equipment/Materials manufacturing factories and lab session with experienced Industry expert guidance.

## Day 6 – Precast Technology

### Mechanization in the field of Civil Engineering

#### Framework

- Recent Developments in various systems of formwork like Tunnel formwork (Mivan..etc.)
- Durability & Workability
- Repeatability

### Reinforcing Steel & Concrete

- Cut & Bend Steel
- Welded Wire Mesh
- Dynamic Concrete
- Self-Compacted Concrete

### Precast Technology

- Latest Technologies & Tools used in precast industry

### Earthquake Engineering

#### Performance of Structure during Earthquake

- Ground Shaking
- Ground Failure
- Inertia forces
- Seismic Loads
- Factors effecting Seismic loads
- Velocity & Acceleration Spectrum

## Failure Mechanism of Earthquake

- Important Parameters of Seismic Design
- Ductility

## General Concepts of Earthquake Resistant Design

- Category of Buildings
- Structural Framing
- Torsion in Buildings
- Concept of Isolation
- Detailing Procedures as per BIS Standards

## Day 7

### Presentation of Allotted Projects by various teams

- Best Teams will be selected and awarded "Winner of CEII Summer Internship '19" with prizes.
- Best Students who perform well throughout the event will get "Best Intern Award" and certificate of Excellence.

**Note:** Expertshub has all rights to change the structure of the program based upon expert's availability and lab conditions without prior notification to anybody.

\*no of hours mentioned are calculated by both class room training & the time student spend outside the class room for their project work.

\*\* Depend upon the equipment's availability

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