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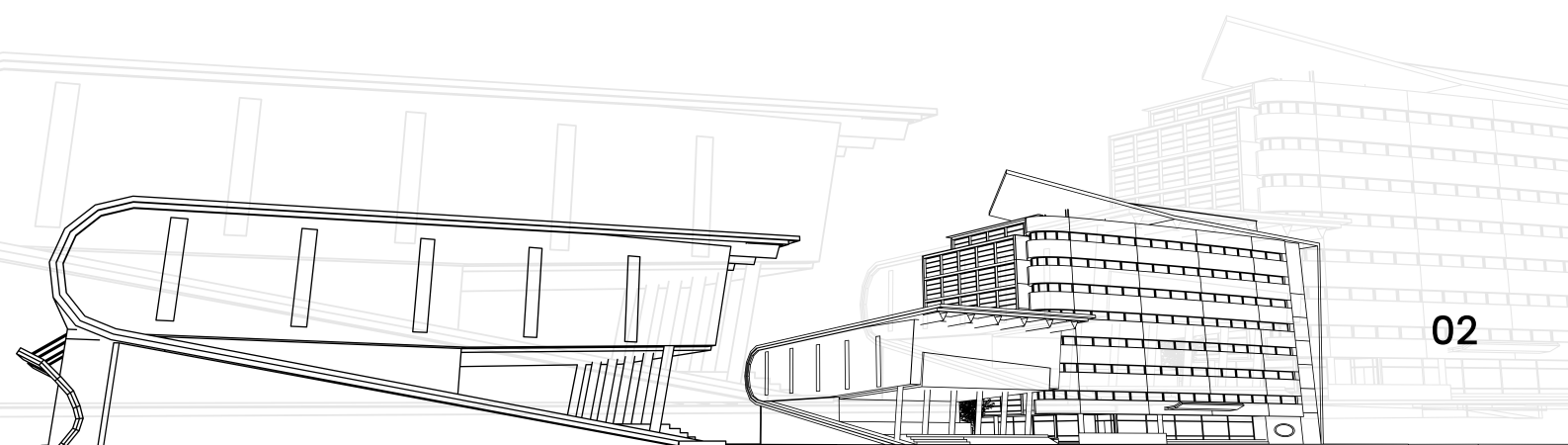
STRUCTURAL DESIGN

BECOME A LEADING STRUCTURAL DESIGNER WITH
HIGH PAYING CAREER LEVELS

Entri App is a vernacular learning platform that aims at helping people land their dream job by empowering them with the right skill set & expert guidance at an affordable cost. Being India's one of the fastest-growing e-learning platforms attracting over 1 crore students, Entri offers a wide range of courses to help students prepare for government exams and upskill themselves for various career opportunities.

The Structural Design Course, which is One of Entri's flagship programs is specifically designed for civil engineers who aspire to excel in their careers. It is really suitable for those who aspire for a high paying office job in India and abroad.

The 'Structural Design Course' goes beyond traditional academic learning by providing comprehensive training and guidance. It equips students with the necessary skills and knowledge to thrive in the dynamic field of structural engineering. This valuable opportunity allows students to apply their newly acquired skills in real-world scenarios, enhancing their understanding and employability



NEED FOR STRUCTURAL ENGINEERING

- ✔ A structural design course describes how to plan and create safe and stable structures. This can include buildings, bridges, tunnels, and other infrastructure.
- ✔ Branch of Civil Engineering that involves the application of the laws of physics, mathematics and empirical knowledge to design the skeletal framework of a Structure (buildings, bridges, dams, tunnels etc).
- ✔ Structural engineers make sure all our buildings and infrastructure are safe to use. A structural engineer can help you stay within budget by ensuring your plans are realistic and feasible.

ROLE OF A STRUCTURAL ENGINEERING

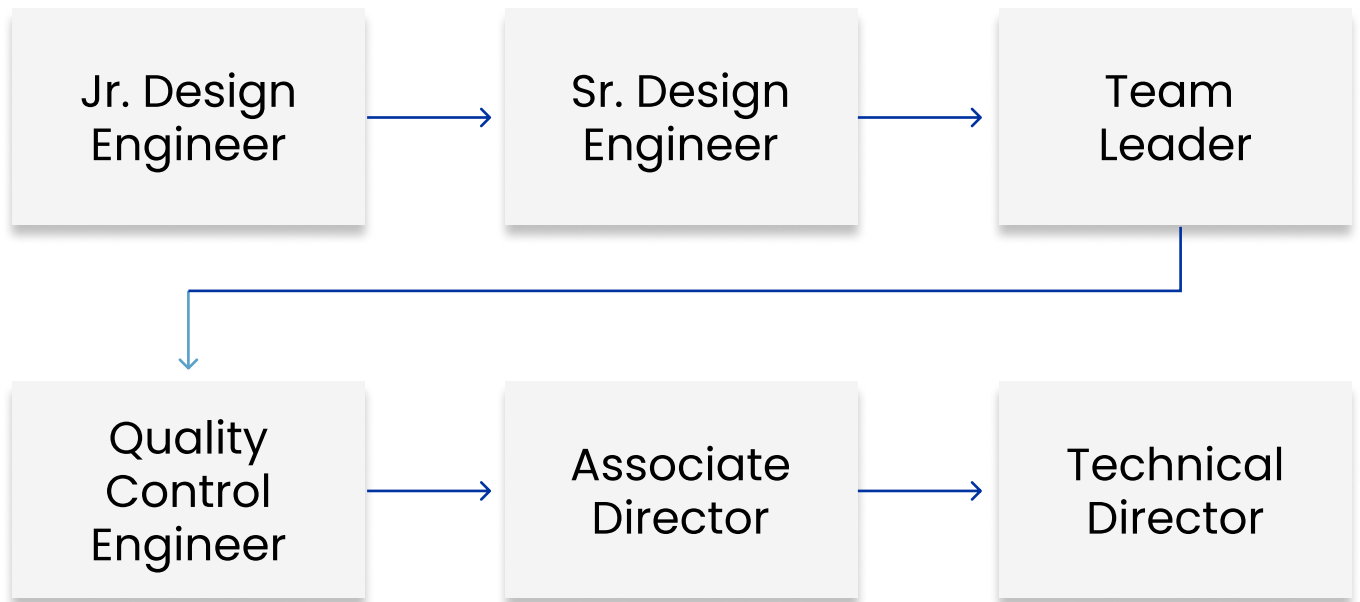
- ✔ Structural Engineer basically works closely with a client/ Architect to design a Stable, Safe Building.
- ✔ The initial set of drawings to start construction activities at site is provided by the structural engineer.
- ✔ They can identify potential problems before they become expensive issues.

- ✔ They can provide expert testimony if there is a failure or dispute related to the structure of your building.
- ✔ They can help ensure that your construction is up to code and compliant to standards.

CAREER OPTIONS AFTER THE COURSE

- ✔ Enhance the chance to join private consultants
 - It will be easier to get employed under reputed Structural engineering consultancies
 - As the course offers technical and industrial exposure equivalent to 2-3 year working professional it will help the candidate to crack interviews.
- ✔ Work along with along with reputed Builders as their In-house Structural engineer
- ✔ Job opportunities in Gulf countries
 - On understanding the design perspective based on American codes, the candidate will be confident in doing projects in Gulf countries.
- ✔ Independently design medium storied structures

PROSPECTIVE CAREER PATH FOR A STRUCTURAL ENGINEER



COURSE FEATURES

- ✔ Guidance from 10+ years experienced professionals
- ✔ Live workshops by leaders
- ✔ Software skills (ETABS, STAAD pro, AutoCAD)
- ✔ Live Projects from Middle East
- ✔ Recorded classes
- ✔ Assignments

- ✔ 12 months Mentorship
- ✔ Placement assistance
- ✔ Live doubt clearing sessions
- ✔ Industry Interactions
- ✔ HR interview preparation sessions
- ✔ CV preparation sessions
- ✔ Course completion certificate

COURSE CURRICULUM

DESIGN OF RCC FRAMED STRUCTURE

Module 1

1. Introduction to structural Engineering

- 1.1 Who is Structural Eng, license and qualification
- 1.2 What is Str. Design., roles
 - 1.2.1 Types of Framing, Framed, Flat slab, SW
 - 1.2.2 STANDARDS IS, BS, ACI
 - 1.2.3 Softwares reqd. (ETABS, STAAD, AutoCAD, SAFE, Tekla, SAP, GAAS etc)

1.3 Why need of SE

1.4 How to do SD, load flow chart, work flow chart

Module 2

2. Introduction to Softwares

2.1 ETABS very basics

2.2 STAAD basics

Modeling of a very basic structure with 6 columns

Module 3

3. Design of RC framed building

3.1 General Design Requirements –Stability, Stiffness, Strength, Deformability and Ductility (Codal provisions)

3.1.1 Load Calculation for Gravity Loads (IS, BS & ACI)

3.1.2 Load Calculation for Lateral Loads(IS, BS & ACI)

3.1.3 Wind and seismic loading explain

3.1.4 Stiffness modifiers

3.1.5 Load combination

Module 4

4. Modelling definitions

- 4.1 Beam definition- local axis definition
- 4.2 column-local axis definition
- 4.3 slab- membrane, shell thin - local axis definition
- 4.4 Walls-local axis definition
- 4.5 Support condition, Pinned/fixed
- 4.6 Grid assignment

Module 5

5. Modelling for G+5 in ETABS

- 5.1 Loading assignment
- 5.2 section assignment
- 5.3 Wind loading
- 5.4 Seismic loading, Mass source etc
- 5.5 Load combinations

Module 6

6. Analysis

- 6.1
 - 6.1.1 Strength , Stability
 - 6.1.2 Bending moment
 - 6.1.3 SF

- 6.1.4 Deflection, Drift
- 6.1.5 Torsion (Equilibrium)
- 6.1.6 Serviceability
- 6.2 STATIC
- 6.3 DYNAMIC
 - 6.3.1 Mode shape
 - 6.3.2 Story Stiffness

Module 7

7. Design

- 7.1 Manual verification with Software o/p(Manual and through SP16)
 - 7.1.1 Design of RCC Beams
 - 7.1.2 Design of RCC slabs
 - 7.1.3 Design of RCC columns
 - 7.1.4 Design of RCC shear wall
 - 7.1.5 Design of RCC staircase
 - 7.1.6 Design of RCC foundation
 - 7.1.6.1 Interpretation of Geotechnical Report and Understanding of important Geotechnical parameters
 - 7.1.6.2 Isolated, combined footing
 - 7.1.6.3 Pile (Underreamed, DMC Pile)

Module 8

8. Introduction to ductile detailing

8.1 Section sizes, rebar sizes, rebar spacing etc.

Module 9

9. Review of drawings

Module 10

10. Assignment discussion

Module 11

11. Live project

DESIGN OF STEEL STRUCTURE

Module 12

12. Introduction to Steel design

12.1 Historical Development And Characteristics
Of Structural Steels

12.2 Introduction To Limit States

12.3 Design Of Tension Members

- 12.4 Introduction To Column Buckling
- 12.5 Introduction To Plate Buckling
- 12.6 Local Buckling And Section Classification
- 12.7 Laterally Restrained Beams
- 12.8 Design Of Axially Loaded Columns
- 12.9 Unrestrained Beam Design
- 12.10 Design Of Beam-columns junction
- 12.11 Design Plate Girders
- 12.12 Beams Subjected To Torsion And Bending
- 12.13 Composite Beams I
- 12.14 Composite Floors - I
- 12.15 Steel-concrete Composite Columns
- 12.16 Trusses

Module 13

13. Connection Design Requirements

- 13.1 Welds Static And Fatigue Strength
- 13.2 Bolted Connections
- 13.3 Plastic Analysis
- 13.4 Portal Frames
- 13.5 Earthquake Resistant Design Of Steel Structures

Module 14

14. Review of drawings

Module 15

15. Assignment discussion

Codes and Standards used

- **IS code**
- **BS code**
- **ACI code**

Softwares used

- **ETABS**
- **STAAD pro**
- **AutoCAD**

EXPERTS TO GUIDE YOU

Get guidance from qualified professionals and industry experts with 20+ years of experience in the field.



Abdul S Moideen

Working as a Senior Structural Engineer. Having 8 years of experience in the Structural design field.



Naveen George

Working as a Structural Engineer. Having 7.5 years of experience in the Structural Engineering field.



Muhammed Shahid P T

Working as a Senior Structural Engineer. Having 7+ years of experience in the Structural design field.



Kripanjith V P

Working as a Senior Structural Engineer at Dubai. Having 10+ years of experience in the Structural design field.

THANK
you

