

Advance

Structural Design Using ETABS, STAAD RCDC & Revit For Professional

ONLINE

100+ Hours

One To One Live Online Training Course

CERTIFIED BY



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Course Overview

Structural Design Using ETABS, STAAD , RCDC & Revit For Professionals

Duration:- 100+ Hours

Develop expertise in executing comprehensive structural projects—including multistory buildings, commercial complexes, and industrial structures—by mastering state-of-the-art digital workflows with ETABS, STAAD RCDC, and Autodesk Revit. This course trains you in the synergy of advanced analysis, detailed design, and BIM documentation, enabling you to address modern engineering challenges efficiently. Designed for structural engineers, BIM professionals, and project managers looking to optimize design, reduce rework, streamline coordination, and meet global standards in the AEC sector.

Key Features



Live One-to-One Training
Personalized learning experience with expert trainers



Hands-on Training with 4+ Industry-Leading Software, workflow and Plugin



Live Project Training
Experience Real-World Design and Modeling Challenges!



Career Advancement
Enhance your BIM Management skills to stay ahead in the industry

*"If you consistently practice daily and complete project work on time, we **guarantee 100%** placement to help you secure a job in the Design industry."*

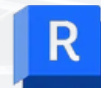


STAAD.Pro



RCDC

ETABS[®]



Revit

In today's construction and engineering environment, accurate and timely information is critical to successful structural design, analysis, and project delivery. Structural engineers, BIM coordinators, and project stakeholders rely on precise data for making informed decisions about load calculations, material specifications, and design compliance. Our experts apply industry best practices and advanced information management strategies to specify, obtain, and maintain high-quality structural data. With open standards as a foundation, we ensure structural project data is reliable, standardized, and reusable, supporting seamless collaboration and long-term maintenance. By implementing robust information workflows, we help optimize structural design accuracy, reduce rework, and facilitate efficient project delivery while safeguarding data integrity throughout the lifecycle of building and infrastructure projects.

Course Modules

Industry Focus: Structural Design Engineer, BIM Coordinator, Project Manager, Civil Engineer, Structural BIM Modeler, Design Consultant, Working Professionals in the AEC sector

Modules

Table of contents

Duration

Module 1

Introduction and Software Workflow

3 HR

M-1.1

Foundations of Structural Data & BIM for Structures

- Overview of building systems (RCC, Steel, Composite)
- Fundamentals of ETABS, STAAD, RCDC & Revit
- Introduction to structural BIM in buildings/infrastructure
- Understanding standards: IS 456, 800, AISC, Eurocode
- Project data types, model setup, analytical vs. physical models

180 Min

Module 2

ETABS Essential Advance Syllabus

30 HR

M-2.1

Introduction and Workflow

- Overview of structural analysis and design basics.
- Introduction to ETABS software and user interface.
- Workflow in ETABS: project setup, importing files, project organization.

120 Min

M-2.2

Project Setup and Modeling Tools

- Creating a new project and model setup (stories, grids).
- Quick templates, editing stories and grid systems, grid options.
- Defining and editing material properties and section properties (frames, slabs, decks, walls).

180 Min

M-2.3

Modeling Elements

- Drawing and editing objects: grids, joint objects, beams, columns, braces, floors, walls.
- Using quick draw tools, openings, reference planes, and stacks.

180 Min

M-2.4

Loads and Load Cases

- Setting up manual calculations and load cases.
- Running model analysis and checking results: deformed shapes, bending/shear diagrams (BMD/SFD), stresses, support reactions.
- Reviewing and verifying model output (tabular and graphical reports).

240 Min

M-2.5

Analysis and Results Interpretation

- Defining load patterns (dead, live, wind, etc.).
- Assigning loads: joint, frame, shell loads.
- Creating and running load cases and load combinations.

180 Min

M-2.6

Concrete Frame Design

- Introduction to design modules for concrete frames.
- Design process flow, preferences, group definitions, design combinations.
- Interactive design and verification (analysis vs. design), member pass/fail checking.

240 Min

M-2.7	Shear Wall and Steel Frame Design • Introduction and step-by-step procedure for shear wall and steel frame design. • Creating and assigning design combinations and bracing, displacement targets. • Starting and reviewing design checks and revising sections as needed.	180 Min
M-2.8	Steel Connections and Joists • Steel connection design: workflow, preferences, design groups. • Steel joist design: process and interactive design tools. • Verifying analysis and design output alignment for steel elements.	180 Min
M-2.9	Detailing and Reporting • Using detailing preferences and component options for concrete and steel. • Rebar selection, creating and exporting detailing drawings. • Custom section designer basics, report creation, and exporting outputs.	180 Min

Module 3**STAAD Pro Essential Advance****30HR**

M-3.1	Introduction and User interface • Structural analysis fundamentals • STAAD Pro interface navigation and customization • Project creation and file management • Detailed unit systems and coordinate conventions • Mouse and view controls for precise modeling	180Min
M-3.2	Geometry Modeling • Node creation: snapping, tables, insertion methods • Beam creation: line, curved, multi-point, intersection techniques • Grid management and coordinate setup for large projects • Use of Structure Wizard for efficient model generation • Advanced editing: split, merge, renumber, mirror, rotate, stretch, move structures	240Min
M-3.3	Material and Section Definition • Defining custom materials and properties • Parametric and standard cross-section libraries • Member orientation, axis transformation, and releases • Advanced support conditions (elastic, hinged, fixed, roller)	180Min
M-3.4	Load Definition and Application • Load types: static, dynamic, moving, seismic, wind, temperature, prestress • Load assignment: point loads, distributed loads, area loads, member loads, surface loads • Load combinations: customization, auto-generation, editing, and validation • Load patterns for response spectrum analysis	240 Min

M-3.5	Analysis Procedures • Static linear analysis parameters and solver settings • Modal analysis theory: mode shapes, frequencies, participation factors • Response spectrum and time history dynamic analysis workflow • P-Delta effect and second-order effects explanation • Nonlinear pushover and incremental analysis basics	180Min
M-3.6	Design and Detailing • Steel design modules: member design, connections, bracings, cold-formed sections • Concrete design: beams, columns, slabs, prestressed elements • Foundation design basics and integration with external CTS tools • Batch vs interactive design processes • Setup of design parameters, safety factors, and code selections	180Min
M-3.7	Plate, Shell, and Solid Modeling • Finite Element Modeling in STAAD: 2D plates, shells, holes, composite decks • Mesh generation: setting density, refinement, boundary conditions • Modeling 3D solids and brick elements for complex structural parts • Application of loads on FEM elements and interpretation of results	120Min
M-3.8	Result Evaluation and Optimization • Interpretation of shear, moment, deflection, stress contour plots • Result animations and detailed graphical output settings • Report generation: configuration, export, custom templates • Model optimization strategies for load, weight, and cost efficiencies	120Min
M-3.9	Interoperability and Advanced Workflow • Import/export with Revit, AutoCAD, SAFE, and BIM tools • Model data exchange for multidisciplinary coordination • Collaborative workflows integrating structural and architectural software • Quality assurance, version control, and troubleshooting	180Min
M-3.10	Practical Project Work and Case Studies • Multi-story building modeling and analysis from start to finish • Truss, water tank, transmission tower, and staircase advanced applications • Real-world challenges and resolution techniques	180Min

<u>Module 4</u>	<u>RCDC Course Syllabus Outline</u>	<u>10 HR</u>
M-4.1	<u>Introduction to RCDC</u> • Overview of RCDC software and key features • User interface basics: workspace, toolbars, menu navigation • Understanding design codes supported (IS 456, IS 13920, ACI 318, BS 8110, Eurocode) • Integration with STAAD Pro, ETABS, and other analysis software for data import/export	120Min
M-4.2	<u>Project Setup and Input Parameters</u> • Creating new projects and setting up design parameters • Inputting geometric data, material properties, and loading conditions • Grouping members, defining load cases, and design codes for the project	120Min
M-4.3	<u>Concrete Member Design and Detailing</u> • Design and detailing of beams: flexural, shear, torsion reinforcement • Column design and reinforcement detailing • Slab design: one-way, two-way slabs and reinforcement layout • Wall and footing design including reinforcement checking • Special elements: shear walls, water tanks, staircases	180Min
M-4.4	<u>Reinforcement Layout Generation</u> • Automatic and manual reinforcement layout tools • Reinforcement optimization techniques • Creation of reinforcement schedules, bar bending schedules (BBS) • Detailing drawings export-ready for construction documentation	120Min
M-4.5	<u>Load and Analysis Data Integration</u> • Importing analysis results from STAAD Pro, ETABS, etc. • Impact of loads on reinforcement design and modification • Re-running design after parameter or code changes	180Min
M-4.6	<u>Advanced Features</u> • Modification of design parameters for local standards/custom requirements • Design of prestressed concrete elements • Soil-structure interaction considerations for footing and foundation design • Generation of comprehensive reports and quality checks	180Min
M-4.7	<u>Project Finalization and Export</u> • Generating detailed drawings and reports in CAD/DWG, PDF formats • Bill of quantities (BOQ) generation • Project review, correction tools, and documentation standards for handover	180Min

<u>Module 5</u>	<u>Revit Structural Project Setup & Model Configuration</u>	<u>19HR</u>
M-5.1	<u>Understanding BIM Fundamentals</u> • Definition and evolution of Building Information Modeling (BIM) • Differences between 2D CAD, 3D Modeling, and BIM • Real-world applications of BIM in architecture, engineering, and construction (AEC)	120 Min
M-5.2	<u>Revit Structural Template Creation, Insert Cad and Other</u> • Revit Templates, Unit, Insert CAD, Linking CAD & models for coordination, • Setting up levels, grids, and reference planes.	120 Min
M-5.3	<u>Structural Elements & Modeling</u> • Revit Modeling, Footing, Column, Beam, Slab, Structural Wall, Staircase and ramp	240 Min
M-5.4	<u>Reinforcement & Rebar Modeling</u> • Rebaring of all components, Rebar tools & Reinforcement settings • Rebar cover, hooks & bar bending schedules • Structural detailing & Concrete reinforcement modeling • Understanding Rebar Shapes & Standard Codes • Managing Rebar Numbering & Reinforcement Categories	180 Min
M-5.5	<u>Documentation, Detailing & Scheduling & BOQ (Bill of Quantities)</u> • Creating plans, sections, and elevations • Annotations, dimensions, and detail callouts • Generating structural shop drawings • Material takeoffs for concrete, steel, and rebar • Creating quantity schedules & cost estimation	180 Min
M-5.6	<u>Work sets, VG Settings, Collaboration, Sheets, Printing, Exporting & Live Projects Practices</u> • Linking multiple models (Architectural, Structural) • Using Revit Work sets • VG settings and more Option • Sheet setup & title blocks • Exporting to AutoCAD, IFC, and PDF • Printing & plotting • Live Projects Practices and Doubts Clearance	300Min
<u>Module 06</u>	<u>Live Work Final Model, Portfolio & Interview Preparation</u>	<u>10 HR</u>
M-6.1	<u>Final Model Practices – Real-World BIM Workflow</u> • Complete design, detailing, and drawing of a multi-storey RCC frame from analysis import to final documentation • Portfolio Development & Project Showcase • Job Interview Preparation & Placement Assistance • Resume Building for BIM & AEC Industry. • 100% Placement Assistance for Successful Candidates.	600 Min

REGISTRATION

Structural Design Using ETABS, STAAD, RCDC
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ENROLLMENT PROCEDURE

FILL OUT THE
REGISTRATION
FORM

1

2

PROVIDE BASIC DETAILS (NAME,
EMAIL, CONTACT NUMBER,
QUALIFICATION, EXPERIENCE).

RECEIVE YOUR
LETTER OF
ADMISSION

3

4

CHOOSE PAYMENT METHOD
(ONLINE TRANSFER, UPI,
CREDIT/DEBIT CARD)

START LEARNING
& PROJECT
WORK

5

FULL BIM MASTERY PROGRAM

54,990/-

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