

STAAD PRO 6-Weeks

INTRODUCTION TO STAAD.PRO

- Introduction of Staad.Pro
 - Starting Staad.Pro
 - Creating New file
 - Opening Existing File
 - Closing a file
 - Saving & Saving As
 - Module Review
- Salient Features
- Hardware Requirements
- Staad.Pro Screen information
- Overview of Structural Analysis and Design
- Types of Structures
- Idealization of Structures
- Various Unit Systems
- Coordinate Systems
 - Global Coordinate System
 - Local Coordinate System
- Staad Commands and Input Instructions
- Command Formats
 - Free Formatting Input
 - Commenting Input
 - Meaning of Underlining in the Manual
- Problem Initiation and Title

STRUCTURAL MODELING

- What are Nodes, Beams, and Plates
- How things are done in the Input File
- Geometry Creation Methods
- Using Structure Wizard
 - Things you can do in Structure Wizard
 - Drafting the Geometry using a Snap / Grid
- Viewing
- Selecting
- Using Selecting While viewing 3D Geometry
- Joint Coordinate Specification
 - Graphical User Interface
- Member Incidence Specification
 - Graphical User Interface

OTHER USEFUL FUNCTION TO COMPLETE THE GEOMETRY

- Introduction
- Translation Repeat
- Circular Repeat
- Insert Node
- Add Beams between midpoints
- Add beams by perpendicular intersection
- Connect beams along an Axis
- Cut Section
- Undo / Redo
- Dimensioning

PROPERTY DETAILS

- Material Specification
 - Material Constants
 - Constant Specifications
- Member Property Specifications
 - Prismatic Property Specifications
 - Tapered Member Specifications
 - Specifying Properties from Steel Table
 - User Table Specifications
- Member Orientation Specifications
 - Beta Angle

MEMBER

- Inactive / Delete Specifications
- Listing of Members / Joints by Specifications of Groups
- Member Offset
- Member Release Specifications
- Member Truss Specifications
- Member Tension / Member Compression Specifications
- Global Support Specifications
 - Fixed / Pinned / Fixed but Release / Spring Supports
 - Inclined Supports
- Curved Member Specifications
- Member Cable Specifications

LOADING PARTICULARS

- Loading Specifications
- Self weight Loading Specifications
- Member Load Specifications
- Area Load / Floor Load Specifications
 - Area Load

- Floor Load
- Load Combination Specifications

ANALYSIS

- Analysis Specifications
- Print Specifications
 - Pre Analysis Print Commands
 - Post Analysis Print Commands
- Load List Specifications
- Report Generation
 - Output file

POST PROCESSING

- Introduction
- First Steps
 - Node Displacement
 - Node Reactions
 - Beam forces
 - Beam Stresses
 - Beam Graphs
 - Plate Contour
 - Plate Results Along line
 - Animation
 - Reports

R. C. DESIGN

- Concrete Design As per IS 456
 - Design Parameters
- Design of Beams
 - Design for Flexure
 - Design for Shear
- Design of Columns
- Concrete Design Specifications
- Concrete Design Parameter Specification
- Concrete Design Command
- Concrete Take of
- Concrete Design Terminator
- Interactive Design
 - Beam Brief
 - Column Brief

STEEL DESIGN

- Steel Design As per IS 800
- Allowable Stresses
 - Axial Stresses
 - Bending Stresses
 - Shear Stress
 - Combined Stress
- Parameter Specifications
- Code Checking Specifications
- Member Selection Specifications
- Tabulated Results Of Steel Design
- Interactive Designs

SEISMIC ANALYSIS

- Introduction to Seismic analysis
- Earthquake loading in high rise buildings
- Implementation of various load combinations of Earthquake analysis using IS 1893
- Analysis and Design of building considering Earthquake loading

WIND LOAD ANALYSYS

- Introduction to Wind load analysis
- Calculation of wind forces in High rise building
- Analysis and Design of building for Wind loading

DESIGN OF ELEVATED WATER TANKS

- Modeling of Intz tank, circular tank, rectangular tank
- Hydro Static loading in these tanks
- Analysis and Design of these tanks

DESIGN OF SLABS

- Introduction to Slabs
- Design of Slabs using IS 456
- Modeling of 1 way , 2 way and Cantilever Slab using Staad.Pro
- Analysis and Design of these Slabs using Staad.Pro

INTRODUCTION TO STAAD BEAVA

Project work is mandatory after the completion of the training program.