



Curriculum Of STAAD Pro

MODULE 1: 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 & 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

MODULE 2: 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

MODULE 3: 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

MODULE 4: 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

MODULE 5: 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



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- Inclined Supports
- Curved Member Specifications
- Member Cable Specifications

MODULE 6: LOADING PARTICULARS

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

MODULE 7: IMPORT /EXPORT MODULES

- Import CAD file in STAAD Pro.
- Import different types of CAD file in STAAD Pro.

MODULE 8: MODELLING

- How to create different types of Model in STAAD PRO.?
- How to use Run Structure wizard in STAAD PRO. ?

MODULE 9: ANALYSIS

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

MODULE 10: POST PROCESSING

- Introduction
- First Steps
- Node Displacement
- Node Reactions
- Beam forces

- Beam Stresses
- Beam Graphs
- Plate Contour
- Plate Results Along line
- Animation
- Reports.

MODULE 11: STEEL DESIGN

- Steel Design as per IS 800
- Analysis & Design of STEEL Truss (2 D) – Dead Load & Live Load
- Analysis & Design of STEEL Truss – WIND LOAD as Per IS -875 PART -3
- 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

MODULE 12: SEISMIC ANALYSIS

- Introduction to Seismic analysis
- Earthquake loading in high rise buildings
- Implementation of various load combinations of Earthquake analysis using IS 1893-2002/2015
- Analysis and Design of building considering Earthquake loading

MODULE 13: WIND LOAD ANALYSIS

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



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MODULE 14: DESIGN OF ELEVATED WATER TANKS

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

MODULE 15: 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

MODULE 16: DESIGN OF FOUNDATION (STAAD FOUNDATION)

- Introduction to Foundation.
- Significances to Foundation for Building Designing
- Analysis & Design of Isolated footing & Interpretation of Results
- Analysis & Design of combined footing & Interpretation of Results
- Analysis & Design of Mat/Raft Footing.
- Project Work