BOOST
THE LEADING TRAINING PROVIDER

Civil Engineering

Advanced Structural Analysis

Course Introduction

STAAD.

STAAD Pro software training allows structural engineers to analyze and design virtually any type of structure through its flexible modeling environment, advanced features and fluent data collaboration. Flexible modeling is provided by a state-of-the-art graphical environment and the design supports over **70 international codes** and over **20 U.S.** codes in **7** languages. An array of advanced structural analysis and design features are included such as nuclear certification for **10CFR Part 50, 10CFR 21, ASME NQA-1-2000,** time history, and pushover analysis and cable (linear and non-linear) analysis.

This training course is designed to provide participants with the advanced applications of STAAD Pro integrating other Bentley products such as STAAD foundation and ProSteel and Open STAAD.

Target Audience

- civil engineers.
- Experienced Civil Engineers Seeking Professional Development
- Architects and Urban Planners
- Entrepreneurs in the Construction Industry

Learning Objectives

- Gain a comprehensive understanding of the practical applications of advanced topics in structural engineering
- Design connections using Steel Designer
- Use the software more productively
- Apply RC Designer to design reinforced concrete
- Load a model to analyze & display structural problems
- Use Time History analysis for seismic loads, machine vibration, random excitation & blast loading

Course Outline

- **DAY 01**

BASIC THEORETICAL UNDERSTANDING:

  - Introduction with present form of STAAD pro training and Interaction with engineers to identify the proper need
  - STAAD.Pro in general - Analysis & Design capabilities
  - Clarifications on useful topics

- **Day 02**

USING THE GRAPHICAL USER INTERFACE TO GENERATE THE GEOMETRY (PRE-PROCESSOR):

  - The general STAAD Pro course environment
  - Short discussion on plane frames, space frames, beams, trusses, etc.
  - Using the drawing tools for creating nodes & beams. Generation methods such as copying /mirroring, rotating. Using spreadsheets.
  - Tools for visualization of the model - panning, zooming, viewing from various

- angles, using multiple views and windows, renumbering entities.
- Examining the tools for checking structural integrity.
- Understanding the STAAD input file using the STAAD editor.
- **Tutorial problem:** Generating models using the Structure Wizard.
- Steel Design
- The Staad pro training gives an idea about using the graphical user interface to generate the geometry or pre processor.

• **Day 03**

USING THE GRAPHICAL USER INTERFACE TO GENERATE A

COMPLETE STAAD MODEL (PRE-PROCESSOR):

- Building a truss model using the drawing tools and Structure Wizard
- Creating groups.
- Understanding the various property types, the steel section database.

• **Day 04**

Creating and assigning properties from steel tables.

- Material constants.
- Understanding beta angles, local vs. global axis, visualization using 3D diagrams.
- Specifications such as member releases, member offsets, tension only/ compression only members, cables, etc.
- Understanding and creating various support types.

• **Day 05**

Understanding and specifying various primary load types.

- Creating Load combinations.
- Performing a general elastic analysis.
- Concrete Design
- The Staad pro training provides the graphical user interface to generate a
- complete Staad model ideas, some contents mentioned below

Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
June 16, 2025	June 20, 2025	5 days	4250.00 $	UAE - Abu Dhabi
Sept. 22, 2025	Sept. 26, 2025	5 days	4950.00 $	Austria - Vienna
Nov. 10, 2025	Nov. 14, 2025	5 days	4250.00 $	UAE - Dubai