

COURSE OVERVIEW SE0290

Advanced Structural Analysis and Design (STAAD PRO)

Course Title

Advanced Structural Analysis and Design (STAAD PRO)

Course Date/Venue

Session 1: April 28-May 02, 2025/Fujairah Meeting Room, Grand Millennium Al Wahda Hotel, Abu Dhabi, UAE
 Session 2: October 26-30, 2025/Boardroom 1, Elite Byblos Hotel Al Barsha, Sheikh Zayed Road, Dubai, UAE

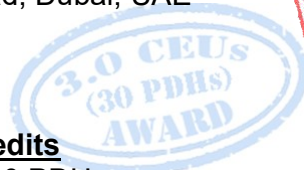


Course Reference

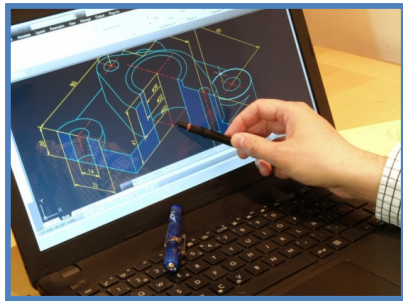
SE0290

Course Duration/Credits

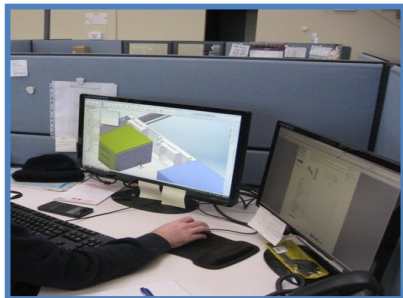
Five days/3.0 CEUs/30 PDHs



Course Description



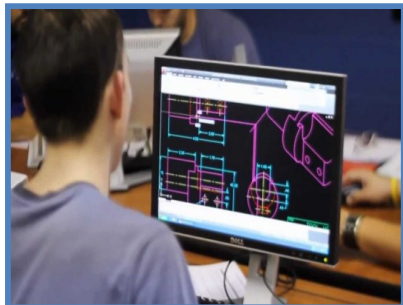
This practical and highly-interactive course includes various practical sessions and exercises. Theory learnt will be applied using the structural analysis and design software.



STAAD stands for Structural Analysis and Design. STAAD Pro software is widely used in analyzing and designing structures – buildings, bridges, towers, transportation, industrial and utility structures. Designs can involve building structures including culverts, petrochemical plants, tunnels, bridges, piles; and building materials like steel, concrete, timber, aluminum, and cold-formed steel.

The course will cover STAAD Pro sets for Structural Analysis and Design. It is one of the software applications created to help structural engineers in the following ways:

- To computerize their jobs
- To remove the long procedures of the manual methods



STAAD Pro training provides an overall look over STAAD Pro. It covers the steps to be followed to produce the structural analysis and design of concrete and steel. It will focus on the different results generated from the program and how to read them, view them and finally generate the necessary reports from them.

Course Objectives

Upon the successful completion of this course, each participant will be able to:-

- Apply and gain basic methods of computer aided structural analysis and design (STAAD PRO) of structural components
- Analyze and design structures using the software tool
- Identify the features of STAAD including its membrane element, load specifications, command and menus
- Specify member properties, specifications & support conditions and define loads
- Employ proper methodology of analysis and design parameters and analyze indeterminate structures
- Carryout commands for defining dead weights on the structure
- Assign line loads on the structure floor and one way load
- Build concrete designs for beams, columns and plate elements and enumerate its specifications
- Differentiate column design and element design
- Display the shear and moment diagrams for a particular load case

Exclusive Smart Training Kit - H-STK®



Participants of this course will receive the exclusive “Haward Smart Training Kit” (H-STK®). The H-STK® consists of a comprehensive set of technical content which includes **electronic version** of the course materials, sample video clips of the instructor’s actual lectures & practical sessions during the course conveniently saved in a **Tablet PC**.

Who Should Attend

This course provides a wide understanding and deeper appreciation of structural analysis and design (STAAD PRO) for structural and civil engineers and other technical staff who are involved in analyzing and designing structural components and related activities.

Training Methodology

All our Courses are including **Hands-on Practical Sessions** using equipment, State-of-the-Art Simulators, Drawings, Case Studies, Videos and Exercises. The courses include the following training methodologies as a percentage of the total tuition hours:-

- 30% Lectures
- 20% Practical Workshops & Work Presentations
- 30% Hands-on Practical Exercises & Case Studies
- 20% Simulators (Hardware & Software) & Videos


In an unlikely event, the course instructor may modify the above training methodology before or during the course for technical reasons.

Course Certificate(s)

Internationally recognized certificates will be issued to all participants of the course who completed a minimum of 80% of the total tuition hours.


Certificate Accreditations

Certificates are accredited by the following international accreditation organizations: -

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British Accreditation Council (BAC)

Haward Technology is accredited by the **British Accreditation Council** for **Independent Further and Higher Education** as an **International Centre**. BAC is the British accrediting body responsible for setting standards within independent further and higher education sector in the UK and overseas. As a BAC-accredited international centre, Haward Technology meets all of the international higher education criteria and standards set by BAC.

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The International Accreditors for Continuing Education and Training (IACET - USA)

Haward Technology is an Authorized Training Provider by the International Accreditors for Continuing Education and Training (IACET), 2201 Cooperative Way, Suite 600, Herndon, VA 20171, USA. In obtaining this authority, Haward Technology has demonstrated that it complies with the **ANSI/IACET 2018-1 Standard** which is widely recognized as the standard of good practice internationally. As a result of our Authorized Provider membership status, Haward Technology is authorized to offer IACET CEUs for its programs that qualify under the **ANSI/IACET 2018-1 Standard**.

Haward Technology's courses meet the professional certification and continuing education requirements for participants seeking **Continuing Education Units (CEUs)** in accordance with the rules & regulations of the International Accreditors for Continuing Education & Training (IACET). IACET is an international authority that evaluates programs according to strict, research-based criteria and guidelines. The CEU is an internationally accepted uniform unit of measurement in qualified courses of continuing education.

Haward Technology Middle East will award **3.0 CEUs** (Continuing Education Units) or **30 PDHs** (Professional Development Hours) for participants who completed the total tuition hours of this program. One CEU is equivalent to ten Professional Development Hours (PDHs) or ten contact hours of the participation in and completion of Haward Technology programs. A permanent record of a participant's involvement and awarding of CEU will be maintained by Haward Technology. Haward Technology will provide a copy of the participant's CEU and PDH Transcript of Records upon request.

Course Instructor(s)

This course will be conducted by the following instructor(s). However, we have the right to change the course instructor(s) prior to the course date and inform participants accordingly:



Professor Engin Aktas, PhD, MSc, BSc, is an **international expert** with over **25 years** of extensive experience in **Structural Reliability, Earthquake Engineering, Design of Concrete and Steel Structures, Structural Damage Assessment & Safety Evaluation** and **Structural Health Monitoring**. He has been a **Senior Professor** to all personnel ranging from students to post graduate students at universities and industrial clients. He has been teaching in the areas of **Theory of Matrix Structural Analysis, Engineering Mechanics, Mechanics of Materials, Civil Engineering System Analysis, Statistics for Civil Engineers, Structural Dynamics, Operations Research, Structural Optimization, Design of Reinforced Concrete Structures, Design of Steel Structures and Structural Reliability**.

During his career life, Professor Aktas performed the design, construction and installation of numerous buildings and industrial structures. Previously, he was the **Structural Design Engineer** with an international company handling multi-million design projects. He is renowned for his enthusiasm and tremendous instructing skills. Moreover, he had been a **Post-Doctoral Fellow** of **NRL/ASEE** and the recipient of the **Naval Research Laboratory/American Society for Engineering Education Fellowship** for his dedication and contributions to his field and was engaged with the **US Naval Research** for a project on **“Damage Detection on Composite Wing of Unmanned Air Vehicle using FBG sensors”**.

Professor Aktas has **PhD** and **Master** degrees in **Civil Engineering** from the **University of Pittsburgh (USA)** and **Bachelor** degree in **Civil Engineering** from **Middle East Technical University (Turkey)**. Further, he had served as a **Post-Doctorate** in **US Naval Research Laboratory (ASEE/NRL Fellow)** in **Washington DC, USA**. Moreover, he is a **Certified Instructor/Trainer** and a well-respected member of the **Union of Chambers of Engineers and Architects of Turkey**, the **Earthquake Engineering Association of Turkey** and the **International Association for Bridge Maintenance and Safety (IABMAS)**.

Accommodation

Accommodation is not included in the course fees. However, any accommodation required can be arranged at the time of booking.

Course Fee

US\$ 5,500 per Delegate + **VAT**. The rate includes H-STK® (Haward Smart Training Kit), buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Course Program

The following program is planned for this course. However, the course instructor(s) may modify this program before or during the course for technical reasons with no prior notice to participants. Nevertheless, the course objectives will always be met:

Day 1

0730 – 0800	<i>Registration and Coffee</i>
0800 – 0815	<i>Welcome and Introduction</i>
0815 – 0830	PRE-TEST
0830 – 0930	Introduction to STAAD
0930 – 0945	<i>Break</i>
0945 – 1100	Features of STAAD
1100 – 1230	Membrane Element and Load Specifications
1230 – 1245	<i>Break</i>
1245 – 1420	Commands and Menus
1420 – 1430	Recap
1430	<i>Lunch & End of Day One</i>

Day 2

0730 – 900	Specifying Member Properties
0900 – 0915	<i>Break</i>
0915 – 1100	Assigning Member & Specifications
1100 – 1215	Specifying Support Conditions
1215 – 1230	<i>Break</i>
1230 – 1420	Defining Loads
1420 – 1430	Recap
1430	<i>Lunch & End of Day Two</i>

Day 3

0730 – 900	Specifying Methods of Analyses
0900 – 0915	<i>Break</i>
0915 – 1100	Design Parameters
1100 – 1215	Methods of Analyzing Indeterminate Structures
1215 – 1230	<i>Break</i>
1230 – 1420	Commands for Defining Dead Weights on the Structure
1420 – 1430	Recap
1430	<i>Lunch & End of Day Three</i>

Day 4

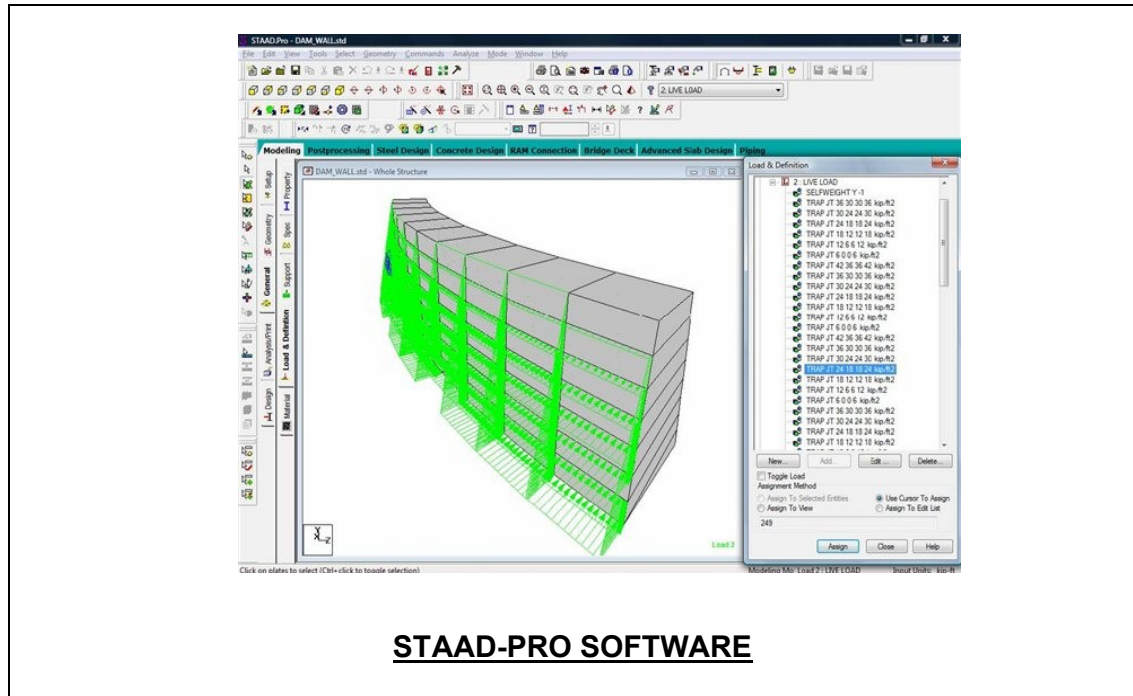
0730 – 900	Assigning Live Loads on the Structure
0900 – 0915	<i>Break</i>
0915 – 1100	Assigning Floor and One Way Load
1100 – 1215	Concrete Design Specification for Beams, Columns and Plate Elements
1215 – 1230	<i>Break</i>
1230 – 1420	Column Design
1420 – 1430	Recap
1430	<i>Lunch & End of Day Four</i>

Day 5

0730 – 0830	<i>Display the Shear and Moment Diagrams for a Particular Load Case</i>
0930 – 0945	<i>Break</i>
0945 – 1030	<i>Element Design</i>
1030 – 1115	<i>Printing Output File</i>
1230 – 1245	<i>Break</i>
1245 – 1345	<i>Additional Exercises</i>
1345 – 1400	<i>Course Conclusion</i>
1400 – 1415	POST-TEST
1415 – 1430	<i>Presentation of Course Certificates</i>
1430	<i>Lunch & End of Course</i>

Simulator (Hands-on Practical Sessions)

Practical sessions will be organized during the course for delegates to practice the theory learnt. Delegates will be provided with an opportunity to carryout various exercises using the “STAAD PRO” simulator.



Course Coordinator

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