ASTS
GLOBAL EDUCATION
BEYOND MERE EDUCATION

TÜVRheinland CERTIFIED

20 YEARS
OF EXCELLENCE

STRUCTURAL ENGINEERING DESIGN AND ANALYSIS

PROSPECTUS

OF EXCELLENCE

5 KEY TAKE AWAYS

1. Discover the knowledge and gain the confidence you need to enter Civil/ Structural / Architectural, Offshore and Marine Construction Engineering, Process Engineering Industry with Valid Certifications.
2. Identify Specific opportunity to increase the strategic value offered by ASTS Global Education Courses to your Professional Profile.
3. Learn to apply most modern Design and Analytic techniques from the Industry Experts.
4. Provide competitor differentiation in the market and Get a world class stand through ASTS Global Education.
5. Learn how to leverage your Intelligence and Expertise to Oil & Gas corporate sector for making Best in class Results.

WHO SHOULD ATTEND?

- BE/B-Tech / Diploma Mechanical / Civil / Architecture Engineering Graduates or Students
- Working executives / Professionals from the similar Industry
- Corporate companies for enhancing staff performance and ability.

ADMISSION PROCEDURES

- Admissions Strictly basis of Online Registration
- Online Registration is available in www.astsglobal.com website.
- Admissions will be confirmed only after verification of the details submitted
- Fees Payments are available after the successful submission of the application

BENEFITS OF ATTENDING

Structural Engineering Design and Analysis course is the Benchmark of competency in the Civil, Structural, Architectural Engineering Industry and is recognized as the leading credential in corporate treasury worldwide. Whether participants are looking to safeguard their careers or seeking a professional career, promotion, earning this program can open a variety of doors.

Professional Competency : Earn up to 20 % more than your non- certified peers

Improve Marketability: Stand out against other applicants in a tough job market

Boost Relevancy : Stay current in the with profession continuing education requirement

Increasing Job Security : Validates your competency in liquidity, capital and risk management functions

Better career Flexibility : Prepares you for greater on-the-job responsibilities

COURSE OVERVIEW

Structural Engineering Design and Analysis training program is offering to fresh/experienced Civil/ Architectural Engineers Who's Start/Shift their career as a StructuralEngineer, StructuralDesigner or Structural Project Engineer in Civil/Construction/ Architectural/ Marine / Offshore / Energy & Power Sectors.

This course will help the student to have in-depth understanding of structural behavior. This understanding will form a basis for analysis and design of building structures. It will encourage using information Technology in the design process.

ASTS GLOBAL offers StructuralEngineering Design Training to Civil, Construction, Structural, Architectural engineers. This Training program is based upon latest technologies of Structural Engineering design methods with the help of Sample projects.

Structural Engineering Design program is 100% Job oriented. After completion of training candidate can start/shift their career as Structural Project Engineer, Structural Engineer or Structural Designer, Structural Analyst, Steel Detailing engineer etc…

PRE COURSE ASSIGNED READING

ASTS GLOBAL EDUCATION will provide pre-reading on-line study materials

POST COURSE READING

- Exam Preparation
- At least 50 hours of personal study recommended from our Online Portal
- Student is responsible for his/her own study time
- ASTS GLOBAL EDUCATION will post practice exams
- There will be other resources online as well.

PROGRAM MODE & TIMINGS

Course Mode	: 100% Online
Timings	: 5 to 7 Hours/week
Duration	: As per the programme

PROGRAM CERTIFICATION

ASTS GLOBAL EDUCATION will provide Certification for PG Diploma in Oil & Gas Piping Engineering Design & Analysis Course in Association with NACTET (Govt of India Autonomous Body for Technical Education) . All Software Certification and Internship certification from the related company/Industry.

HIGH-IMPACT, ONLINE LEARNING EXPERIENCE

ASTS GLOBAL ONLINE TRAINING PROGRAM:

Develop your Technical Mindset helps you reach your potential as a Design Engineer by combining theory with software knowledge and flexibility with academic rigor to help you develop as a well-rounded engineer.

WHO IS IT FOR?

Whether you want to advance in your current industry, shift roles, or build a new business, ASTS Global Education Online Program: Develop your Engineering Mindset can help you achieve your goals.

THIS PROGRAM IS RIGHT FOR YOU:

LEARNING EXPERIENCE

ASTS Global Education follows a unique online model. This model has ensured that nearly 90 percent of our learners complete their course.

RECORDED VIDEO LECTURES

The recorded video lectures are by faculty from the collaborating ASTS Global Education.

ORIENTATION

The first week is orientation week. During this week you will be introduced all the systems to use online platform.

LIVE WEBINARS

Every few weeks, there are live webinars conducted by ASTS Global Education course leaders. Course leaders are highly-experienced industry practitioners who contextualize the video lectures and assist with questions you may have regarding your assignments.

CLARIFYING DOUBTS

In addition to the live webinars, for some courses, the course leaders conduct Office Hours, which are webinar sessions that are open to all learners. During Office Hours, learners ask questions and course leaders respond.

FOLLOW-UP

The ASTS Global Education Program Support team members will follow up and assist over chat, email and via phone calls.

CONTINUED COURSE ACCESS

You will continue to have access to the course videos and learning material for up to 6 months from the course start date.

ASSIGNMENTS/APPLICATION PROJECTS

Assignments are given on the basis of the lectures or tutorials provided. They need to be completed and submitted as per the deadline for grading purposes. Extensions may be provided based on a request sent to the support team.

CASE STUDIES

These are real world scenario-based assignments involving an up-close, in-depth, and detailed examination of a subject of study, as well as its related contextual conditions.

REAL WORLD APPLICATIONS

These are real world situations/data-sets given to derive the desired result using the available information.

DISCUSSION BOARDS

It is an open forum where participants pin their opinions or thoughts regarding the topic under discussion.

CAPSTONE PROJECTS

Capstone Projects are given out at the end of the course to apply all the strategies taught during the course.

DEVICE SUPPORT

You can access Emeritus courses on tablets, phones and laptops. You will require a high-speed internet connection.

ASTS GLOBAL EDUCATION PROGRAM SUPPORT TEAM

If at any point in the course you need tech, content or academic support, you can email program support and you will typically receive a response within 24 working hours or less.

CASE STUDIES

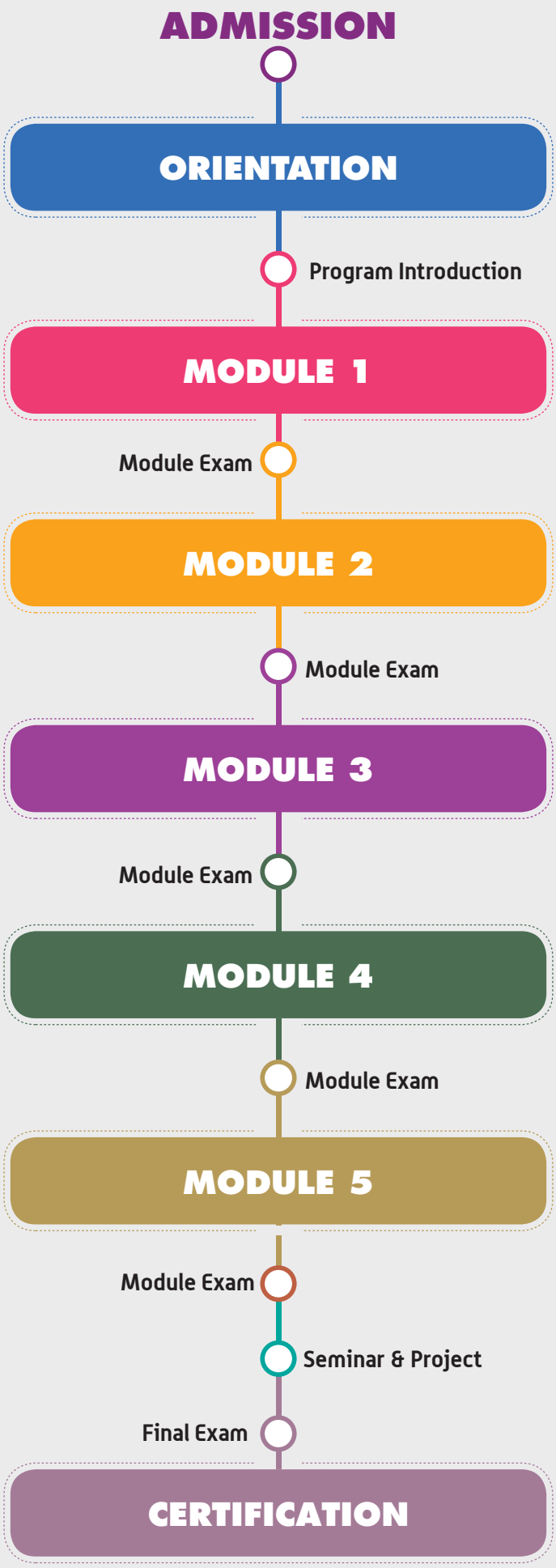
These are real world scenario-based assignments involving an up-close, in-depth, and detailed examination of a subject of study, as well as its related contextual conditions.

ASTS GLOBAL EDUCATION NETWORK

On completing the course you join a global community of 5000+ learners on the ASTS Global Education Network. The Network allows you to connect with Emeritus past participants across the world.

BLOCK CHAIN POWERED CERTIFICATES

Our Course certificates are Digitaly & secured by Block Chain Technology. Its provided immutablity as a service by ptotecting the integrity of the Certificates


ADMISSION
ORIENTATION
Program Introduction
MODULE 1
Module Exam
MODULE 2
Module Exam
MODULE 3
Module Exam
MODULE 4
Module Exam
MODULE 5
Module Exam
Seminar & Project
Final Exam
CERTIFICATION

PG DIPLOMA IN STEEL STRUCTURAL ENGINEERING DESIGN AND ANALYSIS

THEORY + TEKLA + STAAD PRO - 4MONTHS

FUNDAMENTALS OF STEEL AND STRUCTURAL BEHAVIOR

- Understanding Steel -Introduction to steel and its properties
- Types of steel and their applications
- Grading of steel for structural use
- Steel as a Construction Element - Reinforcement steel vs. Structural steel
- Applications and significance in construction
- Introduction to Steel Structures
- Definition and characteristics
- Common types of steel structures
- Types of Steel Sections - Selection criteria for specific structures
- Manufacturing Processes -Hot rolled and cold rolled steel sections
- Mechanical Properties of Steel -Stress-strain curve of mild steel
- Understanding stress, strain, and elasticity
- Hook's law and elastic modulus

CLASSIFICATION OF STRUCTURAL ELEMENTS AND LOADS

- Types of supports and their effects
- Beams: classification and load considerations
- Types of columns and failure modes
- Factors influencing column design
- Shear Force and Bending Moments - Sign conventions and calculations
- Diagrams for shear force and bending moments

STRUCTURAL DESIGN PRINCIPLES AND COMPONENTS

- Overview of steel structures (Portal frame, Steel grid, Steel building frame, Steel truss)
- Selection criteria for various structural systems
- Understanding design codes and specifications
- Design philosophies: Working stress method, Ultimate Load design method, Limit state design
- Limit State Design - Ultimate limit states: strength, overturning, sliding, buckling, fatigue fracture
- Serviceability limit states: deflection, vibrations, corrosion
- Loads and Load Combinations - Understanding different loads and their combinations
- Impact on structural design considerations
- Structural Components - Tension, compression, and bending members
- Combined force members, bracings, connections, gratings

STRUCTURAL ANALYSIS, DESIGN, AND DETAILING

- Fundamental Concepts of Structural Analysis - Basics of structural analysis in steel structures
- Structural Analysis of Truss and Rigid Frame
- Techniques for analyzing trusses and rigid frames
- Design of Steel Members - Tension, compression, column, and beam design principles
- Connections and Welded Joints
- Design of bolted and welded connections
- Design of Steel Buildings and PEB (Pre-Engineered Buildings)
- Principles of designing steel buildings
- Introduction to PEB structures and design considerations
- Steel Detailing and Fabrication
- Drawing types and procedures
- Details of columns, beams, staircase, and ladder in steel structures
- Modeling and editing procedures
- Conveyor systems in steel structures

Tekla®

WHAT IS TEKLA STRUCTURES ?

Tekla Structures is a 3D building information modeling (BIM) software used in the building and construction industries for steel and concrete detailing.

A Versatile software used worldwide for every Structural Engineering application including Process Plant buildings, Power Plant & Utilities, Bulk Material Handling, Boilers, High Rise Buildings, Pre Engineered Buildings, Offshore Structures, Towers, Bridges as well as Miscellaneous Structures like Stairs, Handrails and parametric macros are there to satisfy user requirements as well as standards worldwide.

STEEL DETAILING & FABRICATION

- Create realistic bids and cost estimates
- Fast, intelligent modeling lets you examine several alternatives with accurate cost estimates.
- Model allows for better overall understanding of the project
- Produce high quality sales presentations
- Detail better and more efficiently
- Intuitive, powerful and flexible modeling allows you to detail live in 3D
- Automated clash checking exposes conflicts before it is too late
- Extensive range of connections available
- Unique model sharing allows you to put multiple detailers on a single job

AUTOMATE ROUTINE TASKS

- Automated connection design and detailing through customisable rules
- Accurate documentation and material reports extracted directly from model
- All drawings are associative with the model Manage changes efficiently and reliably
- Costly errors are minimized through superior change management and revision control
- All related components react to changes.
- Drawings and documentation automatically updated
- Integrate operations through the model
- Enhance workflow by providing data directly from the model.
- Collaborate with other disciplines at the jobsite

TEKLA STRUCTURES FOR ENGINEERING

Collaborate

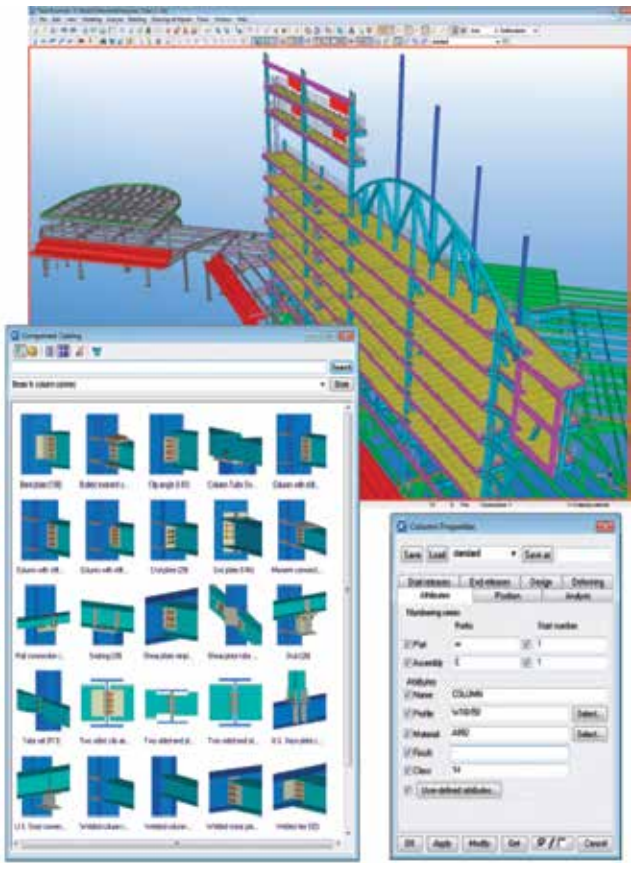
Collaboration with different project teams, internal and external, is the bulk of what engineering work is today. Mastering the massive amount of information and changes is essential for quality projects.

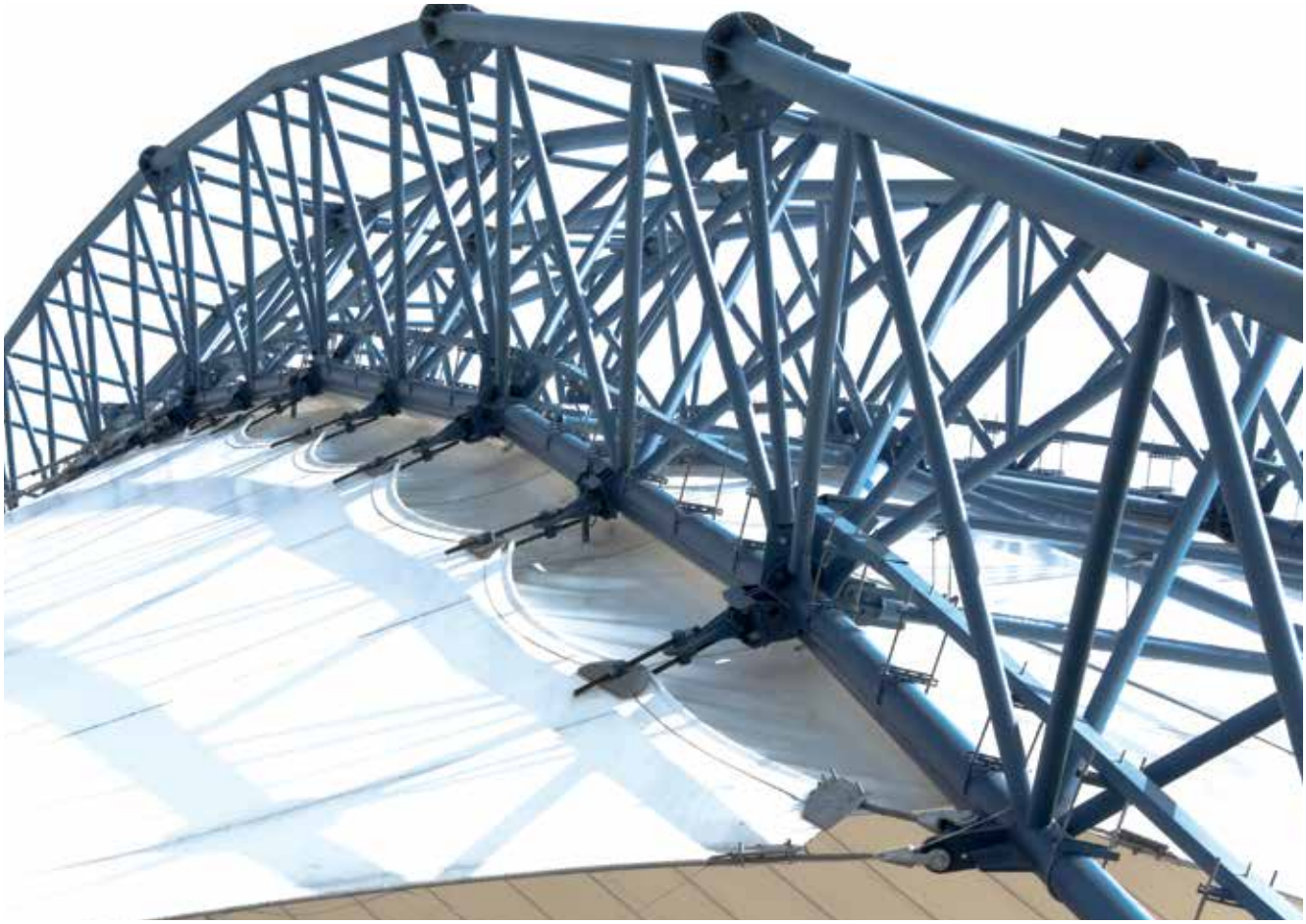
- Communicate your conceptual design alternatives with ease and accuracy
- Use the information rich model and its impressive visualization tools to support your presentations
- Work simultaneously on the same model with others regardless of location
- Enter information only once and share it in its most up-to-date form throughout the process
- Use industry-standard formats, such as IFC, CIS/2, SDNF, DGN and DWG
- Monitor progress of the project with all project team members through built-in 4D tools

DESIGN

Understanding the building and its design options is what quality design is all about. This involves visualizing the projects and having the right tools to change ideas into practice.

- Focus on essential design decisions by freeing up time using





automated routine tasks, extremely powerful modeling, and an integrated, faster workflow
- Design in real-time 3D with an accurate, fully object-based model and utilize the model or parts of it in your preferred A&D solution. Once analyzed, update the model with the resulting data – no more duplicate modeling!
- Whenever you need to make changes, do them in the model – all related output reacts to the changes automatically
- Use automated clash checks to expose conflicts before they become a problem

DELIVER

The final deliverable, in the form of either reports or drawings, is a means to communicate the design. Quality output in plans, elevations, details, and reports is required for an error free project.

IMPROVE YOUR PERFORMANCE TODAY AND GET READY FOR TOMORROW!

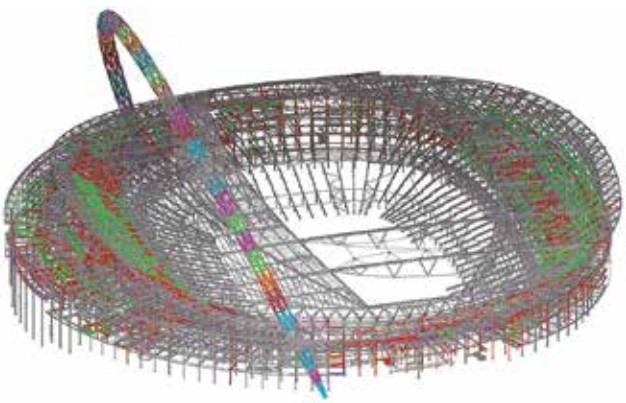
- Greater modeling speed allows more alternative solutions to be explored and lets you compete for more complex and prestigious contracts.
- Powerful visualization and accurate cost estimates help you win more projects.
- An integrated, more efficient overall process reduces project cycle time.
- Less design errors and request for further information reduce costs.
- Better quality of work builds up your reputation.
- Increased efficiency lets you cultivate new business opportunities.

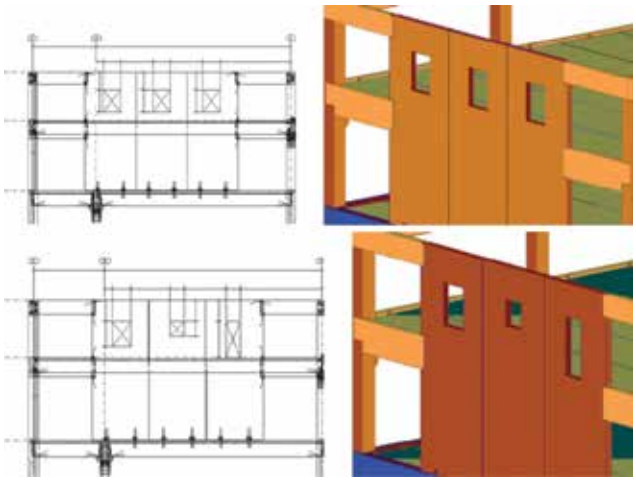
IMPROVE THE WORKFLOW FROM SALES TO ERECTION

- Consistent utilization of information –input only once
- Information is accumulative and accessible by everyone
- All changes are reflected in the output
- Multi-user capabilities enable fluent collaboration with other parties
- Production management and manufacturing data (NC) directly from the model
- Fully integrated drawing production
- Open and customizable solution supports production needs:

IMPROVE QUALITY AND MAXIMIZE PRODUCTIVITY

- All structural design work is mastered within one model
- Reduced costs due to avoidance of detailing errors – intelligent





object-based parametric modeling

- Unlimited options for viewing the design in real-time, regardless of the size or complexity of the project
- More efficient overall process reduces project lead time and improves the cycle time
- Capitalize on your increased efficiency to cultivate new business Opportunities
- To ensure the success of a building project, there are two critical objectives to meet: understanding owner expectations and interpreting the design intent. Sophisticated reporting tools allow rapidly quantifying the scope of materials provided by the design information.

USE THE MODEL TO:

- Associate lead times, delivery dates, methods and materials with elements in the model
- Determine project budgets, general schedules and availability, as well as delivery and constructability constraints
- Develop design alternatives, qualifying the variety of proposal options that may suit your best practice and deliver maximum value to the project
- Mitigate the risk involved in the early stages of a project
- Communicate efficiently with project participants to help understand design intent and ultimately to meet the owner's expectations

USE THE STRUCTURAL MODEL PROVIDED BY ENGINEERS AND FABRICATORS TO ITS FULL POTENTIAL:

- Model the whole process from preconstruction to construction planning and site management: plan and schedule the structures, quantities, costs and resources
- Automate data import from models, spreadsheets, schedules, web pages, company databases
- Update and monitor impacts as changes occur in your projects
- Visualize the building in its as-built condition, locate the task in the building, and show the team an exact way to proceed.

BENEFITS OF LEARNING TEKLA STRUCTURES

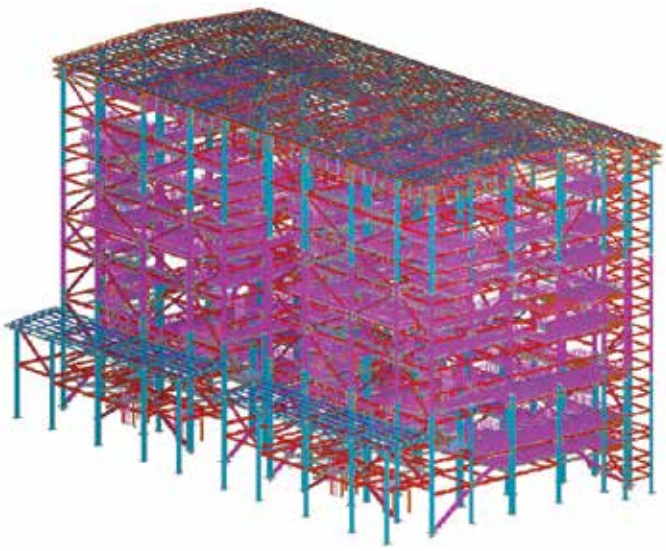
- Faster learning curve using the most popular and demanding software.
- Contemporary way of working - giving you & your company a definite competitive engineering edge.
- Enjoy the benefit of real-time 3D modelling (2D Drawings becomes a by-product of 3D model) .
- Design a variety of structures using steel, concrete or other materials.
- Intelligent model creation of any size or complexity with ease and precision.
- Link with third party application,automatic generation of drawings, reports or other output from the single 3D model.
- Revisions are much easier because the drawings and reports are fully integrated into the model(Change Management).
- Leading 4D tool to manage and track project status.

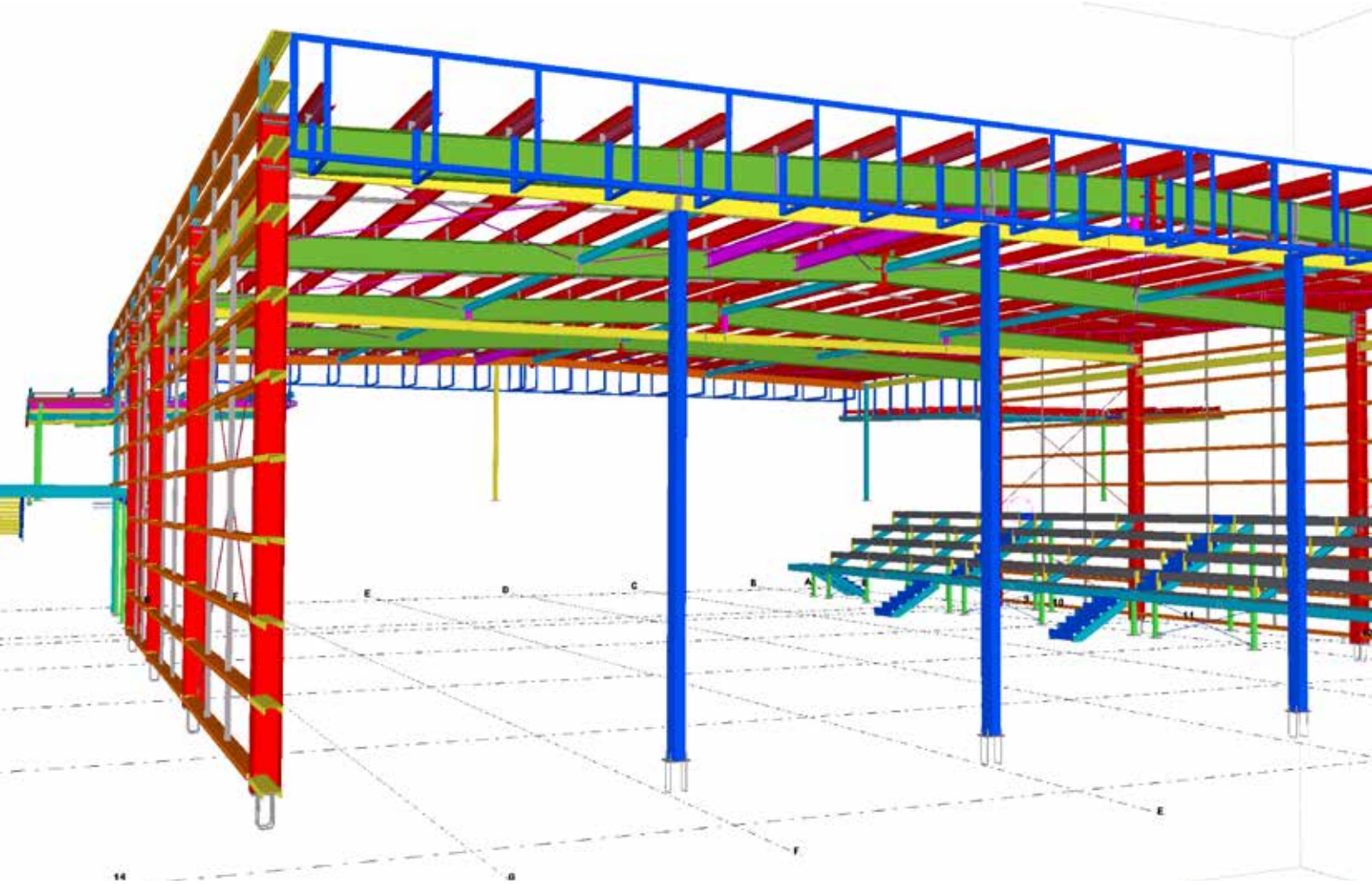
A TRAINING COURSE TO SUIT YOUR NEEDS

You and Your entire team can now enjoy the advantage of real-time 3D modeling. Tekla Structures lets you model a variety of structures using steel, concrete or other materials. You can create an intelligent model of any size or complexity with ease and precision.

ONSITE TRAINING

If you have a team of employees who need the same training and can get trained together, a onsite training enables you to keep travel to a minimum. Customized to your requirements, a onsite training is a targeted, flexible, efficient, and cost-effective approach to team training that can take place at your location. Onsite Training maximize the learning experience and suit the specific needs of implementation teams, or other technology groups.





WHO USES TEKLA STRUCTURES/BIM

- Structural Engineers
- Engineering consultants / Designers
- Architects & Designers
- Steel / Concrete Detailing Companies
- Structural Steel Fabricators
- Project owner,Contractors & Erectors
- EPC Companies

COURSE DETAILS

Name	:	Tekla Structures
Duration	:	1 Month
Class Timings	:	5 to 7 Hours in a week
Admissions	:	Online
Certification	:	Trimble India Pvt Ltd

ELIGIBILITY

- Fresh / Experienced Diploma Holders / Graduates in Civil / Mechanical engineering.
- Working Executives: Engineers with above qualification, working with similar industries with knowledge of steel detailing preferred.
- ITI draughtsman with detail engineering experience.
- Corporates: Corporates using Tekla structures for their engineering Projects.

CAREERS IN BUILDING INFORMATION MODELING (BIM)

PROJECT MANAGER:

BIM is a advanced technology and not all corporations have it yet. A project manager not only has to oversee projects, but will also have to lead his or her company into full acceptance of the efficient and effective BIM programs

STRUCTURAL DESIGN ENGINEER:

A design manager's position is similar to that of the Project Manager, but has more supervisory responsibility. Prospects in this field, especially for those who hold a degree in Civil/Mechanical Engineering with BIM knowledge, are growing faster than the average career field.

TRAINING MATERIALS AND 4 MONTHS EDUCATION VERSION
TEKLA SOFTWARE WILL BE PROVIDED AFTER THIS COURSE

TEKLA STRUCTURES

INTRODUCTION (BASIC MODELING TOOLS & COMMANDS)

- About Tekla and Introduction to Tekla Structure Software
- Creating new model-Intro about menu / Screen layout
- Entering project properties
- Open model / Save As / Save
- Create 3D view & view display properties
- Place Grids & Grid properties and Work Area
- Create plan and elevation views
- Input Points & Point creation commands
- Input steel Members-Beam / Column / Twin Profiles / Plates

CREATE BASIC FRAME MODEL-1

- Creating new model as per sample drawing
- Creating single line grids and clip planes
- Inquire object / Assembly command
- Check Dimension – Measuring Tools

SYSTEM COMPONENTS AND APPLYING MACROS

- Introduction to Component Catalog
- Basic common Component properties
- Cerate component default views
- Input base plate components / Anchor Bolt
- Bracing components
- Inquiry Assembly, Parts, bolts, welds
- Misc. Components-Stiffeners / lifting lug / Hole generation / seating / Simple stairs/ Handrails etc.

CREATE MODEL-2 INTERACTIVELY

- Detailing commands- Fitting /Line Cut/ Polygon Cut/ Part cut
- Adding welds and weld properties
- Placing bolts and bolt properties- slotted holes/ circular bolt group/ Edit bolt parts/ Inquire bolt parts

CREATING CUSTOM COMPONENTS

- Introduction to custom components
- Types- Details/ connections/ Seam/ Part
- Create base plate custom components
- Create end plate custom components
- Concepts of numbering and Numbering settings
- Creation of various reports and Select filters and view filters
- Add purlins using parametric profiles
- Set slope work plane
- Add pipe bracings and connections
- Define numbering series
- Applying Numbering Series-Full/ Modified
- Checking numbering using various reports
- Run numbering, Clash & Model Check
- Integration between model and drawing
- Types of drawings and Drawing list
- Creating GA drawings
- Creating Anchor bolt plans
- Three levels of drawing editing properties
- Creating assembly drawings and properties
- Creating single part drawings and properties
- Creating multi drawing and Updating / Revising Drawings

CREATE MODEL-Miscellaneous

- Modeling of Pre Engineered Buildings
- Modeling of offshore structures – Jackets and Decks

NOTE : 4 MONTHS TEKLA SOFTWARE (EDUCATION VERSION) WILL BE PROVIDED AFTER THIS TRAINING PROGRAM

STAAD.Pro® V8*i*

A Leading Choice in Structural Analysis and Design Software

STAAD.Pro V8*i* is a comprehensive and integrated finite element analysis and design offering, including a state-of-the-art user interface, visualization tools, and international design codes. It is capable of analyzing any structure exposed to static loading, a dynamic response, wind, earthquake, and moving loads. STAAD.Pro V8*i* provides FEM analysis and design for any type of project including towers, culverts, plants, bridges, stadiums, and marine structures.

Advanced Analysis and Design

With an array of advanced analysis capabilities including linear static, response spectra, time history, cable, imperfection, pushover, and non-linear analyses, STAAD.Pro V8*i* provides your engineering team with a scalable solution that will meet the demands of your project every time.

STAAD.Pro V8*i* reduces the man-hours required to properly load your structure by automating the forces caused by wind, earthquakes, snow, or vehicles. No matter what material you are using or what country you are designing your structure for, STAAD.Pro V8*i* can easily accommodate your design and loading requirements, including U.S., European (including the Eurocodes), Nordic, Indian, and Asian codes. Even special codes like AASHTO, ASCE 52, IBC, and the U.S. aluminum code are accommodated.

With an unparalleled quality-assurance program, open architecture for customization, and a 25-year track record – including such projects as the MCI Stadium in Washington, D.C., Wimbledon Court No.1 in London, and the tallest transmission tower in Asia – STAAD.Pro V8*i* is the perfect workhorse for your design firm.

STAAD.Pro V8i will eliminate the countless man-hours required to properly load your structure by automating the forces caused by wind, earthquakes, snow, or vehicles.

Extremely Flexible Modeling Environment

The power of STAAD.Pro V8*i* is in an interface that is based on the latest programming technology, which means that 80 percent of new users learn to use STAAD.Pro V8*i* efficiently in under two hours. Along with our tutorial movies, we include online help and dozens of examples to illustrate solutions to commonly raised modeling, analysis, and design issues.

Clear Start Page and new structure wizard allows user configuration and easy access into the program.

Broad Spectra of Design Codes

Steel, concrete, timber, and aluminum design codes from all around the world including a number of historical codes means that you can take STAAD.Pro V8*i* to wherever your company works.

Interoperability and Open Architecture

STAAD.Pro V8*i* is more than an analysis and design tool. From simple importing of CAD models to creating custom links and developing third-party applications using OpenSTAAD, it can be the heart of your structural solution. When integrated with ProjectWise® V8*i*, your STAAD.Pro V8*i* models can be efficiently managed with the leading project collaboration system. By using the ISM integration, models become part of an integrated workflow.

Quality Assurance

STAAD.Pro V8*i* undergoes the most demanding quality and testing regime. Our procedures follow the requirements of 10CFR Part 50, 10CFR21, and ASME NQA-1-2000 verifying that STAAD.Pro has been approved for use on the design of nuclear installations.

System Requirements

Processor:
Intel® Pentium or AMD processor 2.0 GHz or greater

Operating system:
Windows 7/8/10

System memory:
Minimum of 512 MB of RAM, 2 GB recommended.

Disk space: Requirements will vary depending on the modules you are installing. A typical minimum is 500 MB free space.

Display: Graphics card and monitor with 1280x1024 resolution, 256 color display (16-bit high color recommended)

A sound card and speakers are needed for the tutorial movies and slide shows.

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STAAD.Pro V8*i* At-A-Glance

User Interface

- Graphical tools. Models can be created quickly and accurately using structural grids, tooltips to highlight data, frame generators, and a structure wizard for standard structural frames
- Visualization. From simple wire frames for speed, accuracy, and ease of use to fully rendered 3D models for clear mass distribution and presentation
- All new advanced IDE style Editor with IntelliSense, Database Integration, and context sensitive help
- Meshing tools. Triangular or quadrilateral meshes created from zones within defined models or imported from DXF files
- Load generators. Seismic UBC, IBC, ASME wind and snow, bridge loading BEAVA
- Customizable interface with VBA tools. Create windows and tables to your own specifications. SQL query builder

Objects

- Beams. Standard linear, curved and physical beams, compression/tension only, with databases of sections from around the world
- Plates. 3- or 4-noded 2D plates and surface objects with holes
- Solid. Solid 3D bricks from 4- to 8-noded
- Supports. Foundation and multi-linear springs
- Loads. Full range of loads for static and dynamic analysis that can be defined explicitly or calculated using the wide range of load generators

Analysis

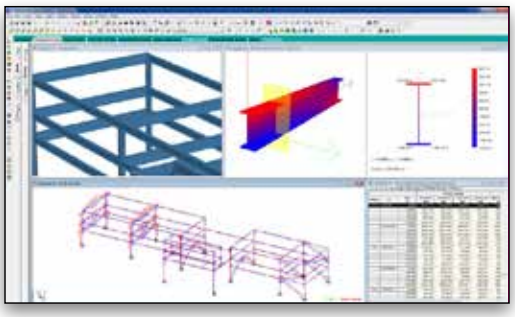
- Elastic. Traditional first-order including iterative one-way analysis
- P-Delta. Both large and small P-Delta including stress-stiffening effects
- Cable. Account for the changing stiffness of cables due to loading
- Imperfection. Account for imperfections in structural geometry
- Dynamic. Modal analysis including stress-stiffening eigensolution and steady-state options, time history, and response spectrums
- Buckling. Identify the eigen buckling factor
- Basic and advanced solvers. The standard solver, the staple of STAAD® for over 20 years is now complemented by an advanced solver that can be up to 1,000 times faster
- Pushover. A solution to the requirements outlined in FEMA 356:2000
- Code checking and design
- Steel Design. Choose from 50 codes from around the world
- Concrete Design. Select from 40 design codes, either in batch processing or the interactive Concrete Design Mode
- Timber. Support four design codes.
- Aluminum design
- Shear wall designs for U.S., Indian, and British codes

Post Processing

- The STAAD.Pro V8*i* interface is configured to suit the model to ease access to the required data
- Interactive graphics. Linked tables and windows to get direct feedback from one item in related windows
- Output file. Simple clear information to verify the analysis
- User report. Create high-quality documents
- Contoured stress plots. Using automatic or user-configured scales, colors, and limits
- Animations. View displacements, stress contours, or mode shapes dynamically

Interoperability

- RAM™ Connection V8*i*. Joints defined in the model with the forces calculated from the analysis can be passed into the leading connection design application
- Bentley AutoPIPE® V8*i*. Pass the STAAD.Pro V8*i* structural steelframe into AutoPIPE V8*i* to correctly account for the pipe support stiffnesses and import the pipe engineers support reactions back into the model for an accurate design in a fraction of the time of traditional methods
- STAAD.foundation V8*i* and STAAD Foundation Advanced V8*i*. Import the STAAD.Pro V8*i* support reactions and positions directly to design the structure foundations
- RAM™ Concept V8*i*. Floor slabs can be identified and linked to RAM Concept for full RC and PT design and detailing in a state-of-the-art application
- ProStructures and AECOsim Building Designer. Two-way link to support creating models with design and construction documents.
- Full concrete design and detail with RC DC directly from the Building Planner Mode
- OpenSTAAD. A complete set of functions that make OpenSTAAD an API from which data can be extracted directly into applications such as Microsoft Word or Excel, or your own application. Use STAAD.Pro V8*i* to create models, run the analysis, and view the result with your own interface
- CAD, DXF. Use CAD models as the base wire frame, structural grid or outline of a complex deck that needs to be meshed
- CIS/2. Exchange data with other steel design packages
- Section Wizard. Calculate properties of built-up sections, drawn freehand, parametrically defined, or imported from a CAD drawing



Interactively view stresses on a profile at any cross section on a selected member and load case.

Pipe work designed in AutoPIPE V8i can be imported and graphically linked to the structure to import the loading.

Bentley
Sustaining Infrastructure

STAAD.PRO V8i

INTRODUCTION TO STAAD.PRO V8I
- Co-ordinate Systems
- Global Vs Local
- Creating a New Project in STAAD.Pro
- Units • Model Generation
- Creating Nodes & Members

MODEL EDITING TOOLS
- Translational Repeat • Circular Repeat
- For a Single Member
- For Multiple Members
- Add Beam • Point to Point
- Between Midpoints
- Perpendicular Intersection
- Curved Member • Connect Beams Along
- Stretch Selected Members
- Intersect Selected Members
- Merge Selected Members
- Renumber
- Split Beam
- Break Beams at Selected Nodes
- Creating Models by using Structure Wizard

SUPPORT SPECIFICATION
- Member Property Specification
- Member Offset Material
- Specification • Group Specification

LOADING
- Creating a Primary Load
- Adding Self weight
- Loading • Nodal Load
- Member Load • Uniform Force and Moment
- Concentrated Force and Moment
- Linear Varying Load
- Trapezoidal Load • Hydrostatic Load
- Pre/Post Stress • Area Load
- Floor Load • Loading
- Wind Load • Moving Load
- Creating Load Combination
- Automatic Load Combination
- Edit Auto Load Rules
- Reference Load • Repeat Load

INTRODUCTION TO ANALYSIS
- Perform Analysis
- Overview of Output Page
- Pre-analysis Print • Post-analysis Print
- Inactive or Delete Specification
- General Guidelines for Design
- Concrete Design in STAAD.Pro
- Column Design • Beam Design

RC DESIGNER
- Beam Design • Column Design

SEISMOLOGY
- Introduction • Terminologies
- Standards for Earthquake Design
- General Principals for Earthquake Design
- Finding the Lateral Force (manual calculation)
- Finding the Lateral Force by using STAAD.Pro

INTRODUCTION TO FEM
- FEM Modeling in STAAD.Pro
- Snap Plate • Add Plate
- Create Infill Plates • Generate Surface Meshing
- Generate Plate Mesh• Parametric Modeling

MEMBER TRUSS
- Creating FEM models by using Structure Wizard
- Adding Plate Thickness
- Plate Load • Pressure on Full Plate
- Concentrated Load
- Partial Plate Pressure Load
- Trapezoidal Load • Hydrostatic Load
- Element Joint Load

WATER TANK DESIGN
- Slab Design • One-way Slab • Two-way Slab

STAIRCASE DESIGN
- Solid Modeling and Analysis

CABLE MEMBER SPECIFICATION
- Tension / Compression Specification
- Steel Design in STAAD.Pro

INTERACTIVE STEEL DESIGN
- Design of Overhead Transmission
- Line Towers

IMPORTING CAD MODELS
- Report Setup
- Plotting from STAAD.Pro

PRE- ENGINEERED BUILDING
- Design and analysis of PEB

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