

FUTURE GEN TECHNOLOGIES

STAAD.PRO SYLLABUS

TOPIC 1

Introduction to structural engineering: Structure, types of structures, basic definitions, Idealization of structures

About STAAD.Pro: Features, hardware requirements, STAAD.Pro screen organization, GUI overview, Unit systems, Structure geometry and Coordinate systems (Global and Local)

Introduction to STAAD Editor

TOPIC 2

Model Generation: Concept of Pre Processor, Analysis Engine, Post Processor; Creating a new file, creating nodes, adding beam, plate, solid, enhanced grid tool (linear, radial, irregular), Geometry beam page

Task: Model generation using grid tool

TOPIC 3

Select Menu: All options explained

Model Editing Tools: Translational Repeat, Circular Repeat, Mirror, Rotate

Task: Model generation using translational repeat

TOPIC 4

Geometry Operations: Insert Node in existing member, adding beams, selecting members Renumbering, How to create Beam /Column & Curved Beams, Add Mid points, Add Perpendicular intersection beam, Cut Section, Stretch /Split BEAMS, Different Viewing Controls for Structure Geometry

Running structural wizard

Task: Practice of commands

TOPIC 5

Modeling of Trusses

TOPIC 6

Modeling of a Transmission Tower

TOPIC 7

Modeling of Water Tank

TOPIC 8

Support Specification: Pinned, fixed, enforced, foundation

Support Page: Create, edit, delete, assignment method

Assigning Property: Material, circle, rectangle

Task: Assign supports and member property to a framed structure

TOPIC 9

Material Specifications: Material Table, Modulus of elasticity, weight density ratio, poisson's ratio, co-efficient of thermal expansion, damping ratio; Member Offset

Loading: Load cases, Primary Load menu, Load commands, Self weight, Nodal load, Member load- concentrated force or moment, linear varying, trapezoidal, hydrostatic

Analysis: Perform analysis, run analysis

Task: Analysis of beams with different end conditions and various types of loading

TOPIC 10

Loading: Area load, floor load, wind load, load combinations, seismic definitions

Task: Complete load definitions for a building design (including seismic and load combinations)

TOPIC 11

Analysis of a structure: Perform analysis, run analysis, pre analysis print, post analysis print

Concrete Design: Beam design, column design, design parameters- selecting and defining parameters, assigning, end concrete design

Task: Analyzing the output file after designing a framed structure

TOPIC 12

Beam Design

Slab Design: One way slab

Tasks: Modeling, analysis and design of framed structures with given specifications

TOPIC 13

Introduction to FEM

Modelling in STAAD.Pro: Geometry- adding plate, create infill plates, generate surface meshing, generate plate mesh, plate thickness

Loading: Pressure on full plate, concentrated load, partial pressure on plate load

Slab Design: Two way slab

Task: Design a two way slab with given specifications

TOPIC 14

Staircase design: Common terminologies, modeling and design procedure

Task: Design a staircase for given specifications

TOPIC 15

Shear Wall Modeling and Design: Adding surface, Commands; Surface thickness, surface load, design parameters

Task: Creating a structural model of a shear wall

TOPIC 16

Introduction to STAAD.Beava

Design: Bridge deck

Task: Practice bridge deck modeling, analysis and design.

- **Future gen training & course syllabus can make the student to challenge on the success of international interviews.**

ABOUT US

- **Future Gen Technologies Training center is an engineering training institute providing trainings on job oriented professional courses for . Our training programs cover Civil Engineering, Mechanical Engineering, Electrical Engineering & IT Engineering.**
- **The Aim of the Future Gen is to develop quality engineers by providing the real time practical knowledge.**
- **Future Gen Training center has a team of highly experienced & qualified teaching staff. Many of them are experienced with real time projects. Our courses training mainly focus on instructors past experience and practical examples. This will help the trainees to have a better understanding of the concept.**
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- **Highly qualified faculty with industry experience**
- **Training will be provided based on 20% theory and 80% practical concept**
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Thank & Regards,

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