Autodesk Robot Structural Analysis Pro.

Course details

AUTODESK Robot Structural Analysis Professional

Course Description:

Autodesk Robot Structural Analysis Professional software provides structural engineers with advanced building simulation and analysis capabilities for large and complex structures.
The structural analysis software offers a smoother workflow and interoperability with Autodesk Revit Structure software to extend the Building Information Modeling (BIM) process, enabling engineers to more quickly perform comprehensive simulation and analysis of a variety of structures.

Objectives:

This course covers the following:

- Using exceptionally powerful FEA analysis, Autodesk Robot Structural Analysis calculates a wide range of structural models.
- Using a comprehensive collection of design codes, results are delivered in minutes, not hours.
- Seamless workflow with 3D bidirectional links to Autodesk companion products: provide a scalable, country specific analysis solution for many different types of structures.

Course textbooks and other reading materials:

We recommend the following resources

Web Resources:

- https://www.autodesk.com/products/robot-structural-analysis/overview
- http://seek.autodesk.com
- https://help.autodesk.com/view/RSAPRO/2023/ENU/

Prerequisites:

- Basic knowledge and skills about using computers
- Engineering background is recommended

Grading:

Attendance 40%
Assignments 60% (Workshops & Projects)
To pass the course and receive both Autodesk & CAD MASTERS certificate you should:

- Attend at least 80% of course hours
- Score more than 70% as a total score + Technical evaluation by the instructor

Course Outline:

This course including the following:

Unit 1:

- Robot in BIM
- Robot modules
- Robot screen layout
- Basic configuration of the program (Units-Codes-Databases)
- Navigation techniques
- Methods of working with Robot interface

Unit 2:

- Analyzing 2D Frames Concrete/Steel
- Design of Beams/Columns/Foundation
- Reinforcement Generation
- Calculation Notes
- Analyzing 2D Steel Trusses

Unit 3:

- Analyzing 3D Frames
- Frame Generator
- Design of Steel connection
- Working with Wind Loads

Unit 4:

- Working with plate design
- Concrete Slabs
  - Solid Slab
  - Flat Slab
  - Ribbed/Waffle Slab
- RAFT Foundation

Unit 5:

- 3D Concrete Building

Unit 6:

- CAD Import
- Concrete Building
- Earthquakes Loads

Unit 7:

- Integration with Revit Structure
  - Export Revit model to Robot
  - Structure Analysis in Robot
  - Modification of the Structure in Robot
  - Update Revit Model from Robot
- Integration with Excel
- Calculation Reports