



## Advanced Structural Analysis & Design using SAP 2000

### Course Curriculum

**Duration:**

**Classroom Training: 70 Hrs      Online Training: 60Hrs.**

#### **Chapter 1: Introduction to SAP 2000**

- a. Overview of SAP2000
- b. Getting Help
- c. Templates and Defaults
- d. Graphical User Interface
- e. SAP Screen Menus
- f. Units System
- g. Coordinate Systems

#### **Chapter 2: Modelling In SAP 2000**

- a. Starting a New Model
- b. New Model Quick Templates
- c. Grid System Data
- d. Add Structural Objects
- e. Edit Stories and Grid Systems
- f. Add Grid at Selected Joints
- g. Grid Options
- h. Save the Model

#### **Chapter 3: Editing Properties**

- a. Replicate
- b. Extrude
  - Extrude Joints to Frames
  - Extrude Frame to Shells
- c. Merge Joints
- d. Align Joints/Frames/Edges
- e. Move Joints/Frames/Shells
- f. Edit Frames
- g. Edit Shells

#### **Chapter 4: Defining Properties**

- a. Material Properties
- b. Section Properties
- c. Load Patterns
- d. Shell Uniform Load Sets
- e. Load Cases
- f. Load Combinations

#### **Chapter 5: Structural Objects**

- a. Draw Grids

- b. Draw Dimension Lines
- c. Draw Joint Objects
- d. Draw Beam/Column/Brace Objects
- e. Draw Floor/Wall Objects
- f. Draw Reference Points
- g. Draw Reference Planes
- h. Draw Wall Stacks

**Chapter 6: Selection Properties**

- a. Select
- b. Deselect
- c. Invert Selection

**Chapter 7: Assign**

- a. Joint
- b. Frame
- c. Shell
- d. Joint Loads
- e. Frame Loads
- f. Shell Loads

**Chapter 8: Design**

- a. Steel Frame Design
- b. Concrete Frame Design
- c. Composite Beam Design
- d. Composite Column Design
- e. Steel Joist Design
- f. Steel Connection Design

**Chapter 9: Detailing**

- a. Detailing Process
- b. Edit Views
- c. Create and Manage Drawing Sheets

**Chapter 10: Display & Generate Results**

- a. Obtain Basic Graphical Displays
- b. Graphical Displays using Model Explorer
- c. Tabular Display of Results
- d. Summary Report
- e. Export Results

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