



# IFS Academy

Training for the future!!!

## **ANSYS Advanced Workbench Course Curriculum**

### **Chapter 1: Introduction**

- A. Definition & Purpose
- B. Types of Dynamic Analysis
- C. Basic Concepts and Terminology
- D. Variable Viewer
- E. Workshop - Introductory Workshop (WS-5)

### **Chapter 2: Modal Analysis**

- A. Definition & Purpose
- B. Terminology & Concepts
- C. Procedure
- D. Workshop - Modal Analysis (WS-17)
- E. Workshop - Modal Analysis (WS-23)

### **Chapter 3: General preprocessing**

- a. Geometry Branch
- b. Contact
- c. Meshing
- d. Named Selections
- e. Coordinate Systems
- f. Workshop – Mesh Control

### **Chapter 4: Static Structural Analysis**

- a. Geometry
- b. Assemblies – Solid Body Contact
- c. Loads and Supports
- d. Workshop – Linear Structural Analysis
- e. Solution Options

- f. Results and Postprocessing
- g. Workshop – 2D vs 3D Analysis

#### **Chapter 5: Free Vibration Analysis**

- a. Free Vibration Analysis Procedure
- b. Workshop 5.1 – Free Vibration
- c. Free Vibration with Pre-Stress
- d. Workshop – Prestressed Modal

#### **Chapter 6: Thermal Analysis**

- a. Geometry
- b. Assemblies – Solid Body Contact
- c. Heat Loads
- d. Solution Options
- e. Results and Postprocessing
- f. Workshop 6.1 – Steady State Thermal Analysis
- g. Thermal Transient Setup
- h. Transient Settings
- i. Transient Loads
- j. Transient Results
- k. Workshop – Transient Thermal Analysis

#### **Chapter 7: Linear Buckling Analysis**

- a. Background on Buckling
- b. Buckling Analysis Procedure
- c. Workshop – Linear Buckling

#### **Chapter 8: Post-processing**

- a. Viewing Results
- b. Scoping Results
- c. Exporting Results
- d. Coordinates Systems
- e. Solutions Combinations
- f. Stress Singularities
- g. Error Estimation
- h. Convergence
- i. Workshop – Advanced Results Processing

**Chapter 9: CAD & Parameters**

- a. CAD Interoperability
- b. Multiple Design Studies
- c. Parameter Manager

**Chapter 10: Sample Structural Analysis**

- a. Harmonic Analysis Procedure
- b. Solving Harmonic Analyses
- c. Damping Input
- d. Request Harmonic Tool Results
- e. Workshop – Harmonic Analysis

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