

Introduction to Abaqus/CAE

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Day 1

- **Lecture 1** **Introducing Abaqus/CAE**
- **Demonstration 1** **A First Look at Abaqus/CAE**
- **Workshop 1** **Overview of Abaqus/CAE**

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Day 1

- **Lecture 2** Working with Geometry in Abaqus/CAE
- **Demonstration 2a** Working with Native Geometry
- **Demonstration 2b** Generating a Shell Feature from a Solid Feature
- **Demonstration 2c** Generating a Shell From a Thin Solid
- **Workshop 2a** Creating Solid and Rigid Parts—Hinge Model
- **Workshop 2b** Creating Parts Using Constraints and Dimensions—Skew Plate Model
- **Workshop 2c** Creating Parts—Clip and Plate Model



Day 1

- **Lecture 3** Working with Models Created Outside Abaqus
- **Demonstration 3** Importing and Editing an Orphan Mesh
- **Workshop 3** Importing and Editing an Orphan Mesh—Pump model



Day 1

- **Lecture 4** **Material Properties and Assemblies in Abaqus/CAE**
- **Demonstration 4a** **Creating Materials and Assigning Sections**
- **Demonstration 4b** **Creating an Assembly**
- **Workshop 4a** **Assigning Material Properties and Defining the Assembly—Hinge Model**
- **Workshop 4b** **Assigning Material Properties and Defining the Assembly—Clip and Plate Model**



Day 2

- **Lecture 5** **Steps, Interactions, and Loads in Abaqus/CAE**
- **Demonstration 5a** **Creating Steps**
- **Demonstration 5b** **Using the Load Module**
- **Demonstration 5c** **Defining a Rigid Body**
- **Demonstration 5d** **Using Automatic Contact Detection and General Contact**
- **Workshop 5a** **Defining Steps, Interactions, Boundary Conditions, and Loads—Hinge Model**
- **Workshop 5b** **Defining Steps, Interactions, and Boundary Conditions—Clip and Plate Model**



Day 2

- **Lecture 6** **Meshing**
- **Demonstration 6a** **Using the Mesh Module**
- **Demonstration 6b** **Partitioning and Meshing**
- **Workshop 6a** **Three-Dimensional Meshing—
Hinge Model**
- **Workshop 6b** **Two-Dimensional Meshing—Fuse Model**
- **Workshop 6c** **Meshing—Clip and Plate Model**



Day 2

- **Lecture 7** **Job Management and Results
Visualization**
- **Demonstration 7a** **Using the Keywords Editor**
- **Demonstration 7b** **Visualizing Results**
- **Workshop 7a** **Job Management and Visualization—
Hinge Model**
- **Workshop 7b** **Visualizing Results and Modifying the
Model Definition—Clip and Plate Model**



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Demonstration 2a	5/11	Updated for 6.11
Demonstration 2b	5/11	Updated for 6.11
Demonstration 2c	5/11	Updated for 6.11
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Workshop 7b	5/11	Updated for 6.11



Introducing Abaqus/CAE

Lecture 1

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L1.2

Overview

- SIMULIA
- What is Abaqus FEA?
- Why Abaqus/CAE Over Other Tools?
- Primary Features of Abaqus/CAE
- Miscellaneous Features of Abaqus/CAE
- Starting Abaqus/CAE
- Important Abaqus/CAE Terminology
- Documentation
- Abaqus/CAE Checklist
- Working with the Model Tree
- Workshop

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Working with Geometry in Abaqus/CAE

Lecture 2

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L2.2

Overview

- What are Parts?
- Defining a Part
- Geometry Import and Repair
- Building a Part Using the Part Module Tools
- Workshops

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Working with Models Created Outside Abaqus

Lecture 3

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L3.2

Overview

- Details of an Abaqus Input File
- Orphan Mesh Import
- Example
- Workshop

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Material Properties and Assemblies in Abaqus/CAE

Lecture 4

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 SIMULIA

L4.2

Overview

- Defining and Assigning Properties
- Material Evaluation
- Material Databases
- Material Calibration
- What is an Assembly?
- Positioning Part Instances
- Patterning
- Boolean Operations
- Sets and Surfaces
- Display Groups
- Workshops

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Steps, Interactions, and Loads in Abaqus/CAE

Lecture 5

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L5.2

Overview

- Steps
- Output
- Interactions
- Loads, Boundary Conditions, and Initial Conditions
- Workshops

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Meshing

Lecture 6

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L6.2

Overview

- Introduction
- Dependent and Independent Part Instances
- Mesh Generation Techniques
- Enabling Various Meshing Techniques
- Bottom-Up Hex Meshing
- Mesh Compatibility
- Controlling Mesh Density and Gradation
- Parametric Modeling
- Assigning Element Types
- Verifying Mesh Quality
- Mass and Mesh Queries
- Workshops

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Job Management and Results Visualization

Lecture 7

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L7.2

Overview

- **Job Management**
- **Keywords Editor**
- **Review of ODB Output**
- **Results Visualization**
 - Basic features
 - Advanced/miscellaneous features
- **Workshops**

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