



*Hands On, Measurable  
Training Programs*

## SIMULIA Mechanical Scenario Creation Essentials

Course Code	SIM-en-MECS-F-15-201
Brand & Release	SIMULIA 2020
Duration	2 days
Level	Fundamentals
Prerequisites	Structural Model Creation Essentials

### Objectives:

This course is an introduction to mechanical and thermal simulation in the **3DEXPERIENCE** platform. It teaches you how to solve both linear and nonlinear static and dynamic problems and view simulation results.

### Class Structure:

Upon completion of this course, you will be able to:

- Perform structural simulations (linear and nonlinear, statics and dynamics)
- Perform thermal simulations
- View and evaluate simulation results

### Class Lessons:

Lesson 1: Getting Started with Simulation

Lesson 2: Steps and Static Simulations

Lesson 3: Loads and Restraints and Initial Conditions

Lesson 4: Contact

Lesson 5: Running Simulations and Postprocessing

Lesson 6: Dynamic Simulations

Lesson 7: Nonlinear Dynamics

Lesson 8: Quasi-static Simulations

Lesson 9: Heat Transfer Simulation

Workshop 1: Buckle Clip Insertion

Workshop 2: Creep of a Pipe Intersection

Workshop 3a: Analysis of a Reinforced Panel

Workshop 3b: Cantilever Beam with Multiple Load Cases

Workshop 4: Pump Model-Steps, Loads, and Contact

Workshop 5: Non-Linear Static Analysis of Pump Assembly

Workshop 6: Vibrating Cantilevered Plate

Workshop 7: Pipe Whip Simulation

Workshop 8a: Channel Forming

Workshop 8b: Bending of a Thin Tube

Workshop 9: Thermal Simulation of a Pump Housing