

Modeling Multibody Mechanical Systems with Simscape

OEM: MathWorks • Duration: 1 Day (8 hrs) • Code: MW-MODELING-MULTIBODY-MECHANICAL-SYSTEMS

COURSE MODULES & TOPICS

Day 1 of 1

Modeling Rigid Bodies

- Defining basic rigid bodies
- Visualizing systems
- Adding coordinate frames
- Creating compound rigid bodies
- Specifying joints
- Setting initial conditions

Assembling Mechanisms

- Defining custom rigid bodies
- Reusing components with subsystems and masks
- Guiding and verifying a closed-loop mechanism
- Actuating joint motion
- Logging simulation results

Importing CAD Models

- Importing rigid bodies from CAD
- Defining custom reference frames
- Applying joint limits and internal mechanics

Modeling Contact Forces

- Modeling contact forces
- Sensing contact forces
- Improving simulation performance
- Creating contact proxies using point clouds

Connecting to Simscape and Simulink

- Connecting multibody models to Simscape
- Controlling multibody models with Simulink
- Locking joints during simulation