PTC® university

Introduction to Creo Simulate

Overview

Course Code	TRN-3411-T
Course Length	5 Days

This course is designed for new users who want to test, validate, and optimize product designs with the Creo Simulate module. Simulate enables you to simulate structural and thermal loads on product designs. In this course, you will complete comprehensive, hands-on lab exercises that simulate realistic analysis and design optimization activities. You will also be introduced to advanced topics such as dynamic analyses, combined mechanical and thermal analyses, and Optimization Studies. After completing the course, you will be able to run engineering analyses and optimizations on your product design models.

At the end of each module, you will complete a skills assessment. The questions are used to help reinforce your understanding of the module topics and form the basis for review of any topics, if necessary.

Course Objectives

- Learning the basic Simulate analysis process
- Learning theory and simulate model topics
- Exploring results
- Learning about materials and material properties
- Understanding and using Simulate idealizations
- Understanding and using structural loads
- Understanding and using structural constraints
- Running structural analyses
- Understanding convergence
- Analyzing assemblies with Simulate
- Completing design and sensitivity studies
- Running optimization studies

Prerequisites

- Three months of Pro/ENGINEER Wildfire 5.0, or Creo Parametric experience

Audience

- This course is intended for design engineers and mechanical designers. People in related roles will also benefit from taking this course.

Agenda

Day 1

Module	1	Introduction to Creo Simulate
Module	2	Theoretical Foundations
Module	3	Model Preparation
Module	4	Analysis Definition Basics
Module	5	Introduction to Results Evaluation

Day 2

Module	6	Materials and Simulate Geometry Features
Module	7	Loads and Constraints
Module	8	Interfaces, Assemblies, and Measures

Day 3

Module	9	Meshing
Module	10	More Analysis Types
Module	11	Singularities
Module	12	Basic Model Debugging
Module	13	Project

Day 4

Module	14	Model Types
Module	15	Shells
Module	16	Idealizations

Day 5

Module	17	Advanced Analysis
Module	18	Sensitivity and Optimization