

Behavioral Modeling Using Creo Parametric 3.0

Overview

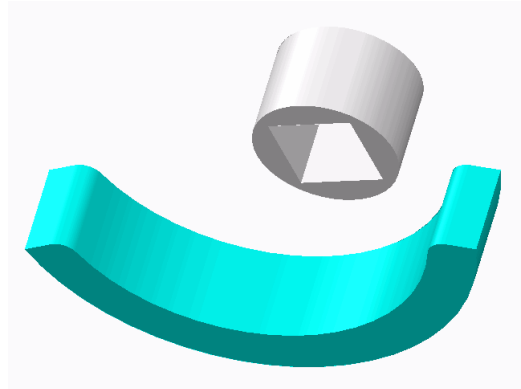
Course Code TRN-4520-T

Course Length 1 Day

This course is designed for experienced users who want to add additional features to meet or exceed the design specifications of their products.

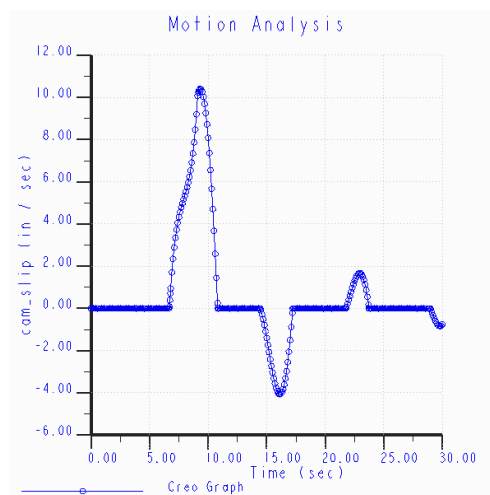
In this course, you will learn advanced analysis skills unrelated to structural or thermal analysis. You will learn how to analyze your models and create analysis features that can enforce your design intent. You will also learn how to create sensitivity and feasibility studies that help you determine how to reach your design goals. Furthermore, you will learn how to create optimization design studies that enable you to configure the dimensions and parameters that Creo Parametric can change to meet your design specifications. After completing this course, you will be prepared to work on critical component designs using Creo Parametric Behavioral Modeling.

At the end of each module, you will complete a set of review questions to reinforce critical topics from that module. At the end of the course, you will complete a course assessment in Pro/FICIENCY intended to evaluate your understanding of the course as a whole.



Course Objectives

- Apply the behavioral modeling process and concepts to your designs
- Create measurement analysis features
- Create relation, motion, Creo Simulate, and MS Excel analysis features
- Create user-defined analysis features
- Conduct sensitivity analyses
- Conduct feasibility and optimization studies



Prerequisites

- Introduction to Creo Parametric or equivalent experience
- Experience with MS Excel, Mechanism Design, Creo Simulate, and Creo Mechanism Dynamics
Extension is useful but not required

Audience

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

Day 1

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| Module | 1 | Introduction to the Behavioral Modeling Process |
| Module | 2 | Creating Measurement Features on Creo Parametric Models |
| Module | 3 | Creating Model Property Features on Creo Parametric Models |
| Module | 4 | Creating Analysis Features on Creo Parametric Models |
| Module | 5 | Creating User-Defined Analysis Features on Creo Parametric Models |
| Module | 6 | Conducting Design Studies and Optimizing Models |
| Module | 7 | Project |

Course Content

Module 1. Introduction to the Behavioral Modeling Process

- i. Behavioral Modeling Process
- ii. Identifying BMX Analysis Types
- iii. Identifying the Differences Between Creo Parametric Analyses

Knowledge Check Questions

Module 2. Creating Measurement Features on Creo Parametric Models

- i. Using the Measure Tools
- ii. Using the Measure Summary Tool
- iii. Creating a Measurement Feature

Knowledge Check Questions

Module 3. Creating Model Property Features on Creo Parametric Models

- i. Comparing Model Property Analyses
- ii. Measuring Mass Properties
- iii. Measuring X-Section Mass Properties
- iv. Measuring Pairs Clearance

Knowledge Check Questions

Module 4. Creating Analysis Features on Creo Parametric Models

- i. Comparing Analysis Features
- ii. Creating a Relation Analysis Feature
- iii. Creating a Motion Analysis Feature
- iv. Creating a Creo Simulate Analysis Feature
- v. Creating an MS Excel Analysis Feature
- vi. Creating an External Analysis Feature
- vii. Monitoring the Parameters of Analysis Features
- viii. Statistical Design Study

Knowledge Check Questions

Module 5. Creating User-Defined Analysis Features on Creo Parametric Models

- i. Introduction to User-Defined Analysis Features
- ii. Creating Field Points
- iii. Creating a Construction Group
- iv. Creating User-Defined Analysis Features

Knowledge Check Questions

Module 6. Conducting Design Studies and Optimizing Models

- i. Comparing Design Studies
 - ii. Translating Design Specifications
 - iii. Performing Sensitivity Analysis
 - iv. Performing Feasibility Design Studies
 - v. Performing Optimization Design Studies
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Knowledge Check Questions

Module 7. Project
