# Behavioral Modeling Using Creo Parametric

Overview

Course Code | TRN-3426-T

Course Length | 1 Day

In this course, you will focus on learning 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 aid you in determining 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 in order to meet your design specifications. This course is designed for experienced users who want to add additional features that enable you to meet or exceed the design specifications of your products. At the end of each module, you will find a set of review questions to reinforce critical topics from that module. After completing this course, you will be prepared to work on critical component designs using Creo Parametric Behavioral Modeling. At the end of the course, you will find a course assessment in Creo Parametric intended to evaluate your understanding of the course as a whole.
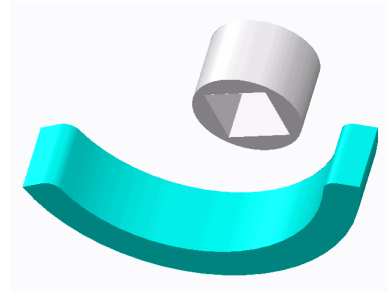
Course Objectives

- Applying the Behavioral Modeling process and concepts to your designs
- Creating measurement analysis features
- Creating relation, motion, Creo Simulate, and MS Excel analysis features
- Creating user-defined analysis features
- Conducting sensitivity analyses
- Conducting feasibility and optimization studies
- Design Project
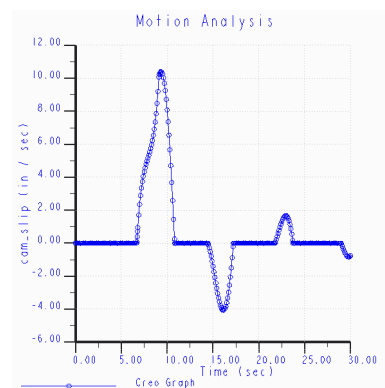
Prerequisites

- 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. Related roles will also benefit from taking this course.

Agenda

Day 1

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.   Comparing Creo Parametric Measurement Analyses

    ii. Measuring Distance

    iii. Measuring Length

    iv. Measuring Angles

    v. Measuring Area

    vi. Measuring Diameter

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 One-Sided Volume

    v. 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

Knowledge Check Questions

Module 7. Project