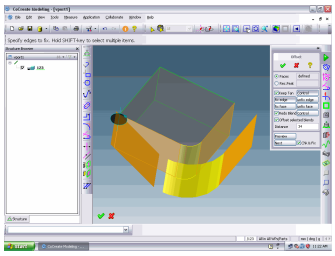
PTC university

Advanced Modeling using Creo Elements/Direct 18.0

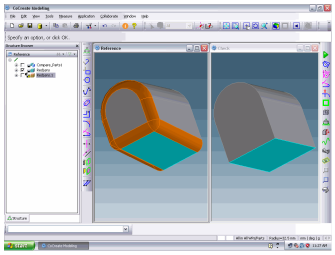
Overview

Course Code	TRN–3421–T
Course Length	2 Days



In this course, you will learn advanced functions, options, and design methodologies of Creo Elements/Direct 18.0 Modeling. This course includes advanced 3-Dimensional modification functions and options. You will learn about advanced freeform functions. You will also learn how to further manage assemblies with configurations, and clash analysis. In addition, you will learn about the 3D Documentation Module and the Machining Module. 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



- Understand and use the advanced options in modification commands.
- Understand and use faceset features and patterns.
- Create freeform parts using Loft, Sweep, and Helix.
- Create and manipulate configurations.
- Understand and use Clash Analysis.
- Understand the concept of Versioning.
- Utilize 3D Documentation.
- Utilize the Machining Module.

Prerequisites

- Must be able to interpret engineering drawings, and have an understanding of drafting concepts.
- Must have at least two months of current experience with Creo Elements/Direct 18.0 Modeling.
- Prior use of another 3-D CAD system is helpful, but not required.

Audience

- Designers
- Mechanical engineers
- Industrial designers
- Illustrators
- Tooling designers

Agenda

Day 1

Module	1	Advanced Modification Operations
Module	2	Freeform Modeling Operations

Day 2

Module	3	Advanced Parts and Assembly Operations
Module	4	3D Documentation with Creo Elements/Direct Modeling
Module	5	Machining Module with Creo Elements/Direct Modeling

Course Content

Module 1. Advanced Modification Operations

i. Modifying 3-D
ii. Performing Freeform
iii. Working with Parts and Assembly
iv. Using 3D Documentation
v. Performing Machining Operations
vi. Preserving Tangency
vii. Keeping Blends
viii. Using Blend Options
ix. Using Probe
x. Using Features
xi. Creating Face Set Features
xii. Creating Feature Patterns
xiii. Modifying Patterns
xiv. Imprinting Edges

Knowledge Check Questions

Module 2. Freeform Modeling Operations

i. Introducing Loft
ii. Preparing for Loft
iii. Performing Loft
iv. Performing Loft Options
v. Creating a Helix
vi. Performing Sweep

Knowledge Check Questions

Module 3. Advanced Parts and Assembly Operations

i. Creating Configurations
ii. Creating Explosions
iii. Creating Manual Configurations
iv. Showing Multiple Positions
v. Using Configurations for Annotation
vi. Using Pressfit
vii. Performing Clash Analysis
viii. Managing Clash Results
ix. Resolving Clash Results
x. Using Selective Instancing
xi. Using Clipping Planes
xii. Introducing Versioning
xiii. Replacing Versions
xiv. Using Compare Parts

Knowledge Check Questions

Module 4. 3D Documentation with Creo Elements/Direct Modeling

i. Using Docuplanes
ii. Introducing 3-D Annotations
iii. Creating GD&T
iv. Creating Dimensions
v. Creating Notes
vi. Grouping Dimensions
vii. Modifying Using Dimensions
viii. Creating a Bill of Material
ix. Attaching Position Flags
x. Creating 2-D Drawings

Knowledge Check Questions

Module 5. Machining Module with Creo Elements/Direct Modeling

i. Using the Machining Module
ii. Creating Hole Features
iii. Modifying Hole Features
iv. Specifying Tolerances
v. Specifying Quality
vi. Creating Patterns
vii. Checking and Validating
viii. Exporting Data
ix. Generating Reports

Knowledge Check Questions