

Managing Design Variations with PTC Windchill 11.0

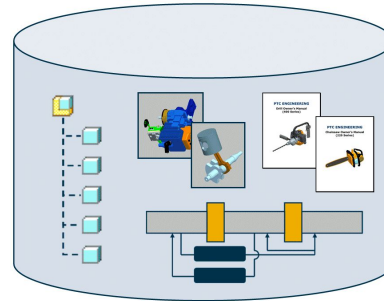
Overview

Course Code	TRN-4777-T
Course Length	8 Hours

In this course, you will explore the capabilities, concepts, and processes for creating product options and variants. You will examine the environment and learn how to configure and organize your product structures to support your design variation requirements. Finally, you will learn how to view and filter product configurations based on choices and rules.

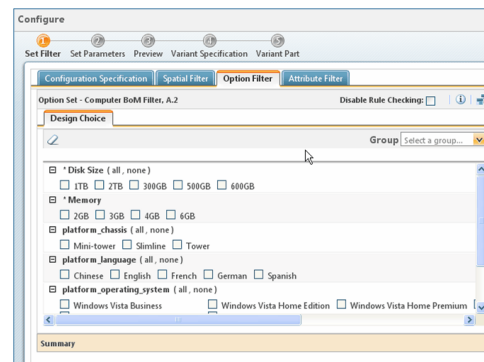
At the end of each module, you will complete a set of review questions to reinforce critical topics from that module. At the end of the course, you will complete a course assessment in PTC University Proficiency intended to evaluate your understanding of the course as a whole.

This course has been developed using Windchill 11.0 F000.



Course Objectives

- Understand Windchill design variation capabilities
- Create and manage options and choices definitions
- Use option sets to organize product families
- Set up configurable product structures
- Filter a configurable product structure
- Create and manage variants



Prerequisites

- Completion of one of the following courses:
- TRN-4751 Introduction to PTC Windchill PDMLink 11.0 for Heavy Users
- TRN-4752 Introduction to PTC Windchill PDMLink 11.0 for the Implementation Team

Audience

- This course is intended for users that are familiar with Windchill product structures who will be developing the required options and variants.
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Agenda

Day 1

Module	1	Introduction to Windchill Options and Variants
Module	2	Working With Enterprise-wide Definitions
Module	3	Using Option Sets to Establish Product Families
Module	4	Developing Configurable Product Structures
Module	5	Assigning Expressions to Parts
Module	6	Configurable Product Structure Filtering
Module	7	Advanced Selection Logic for Configurable Modules
Module	8	Creating and Managing Variants

Course Content

Module 1. Introduction to Windchill Options and Variants

- i. Introduction to Options and Variants
- ii. Strategies to Support Product Variability
- iii. Variant Design and Generation Process
- iv. Generic Platform Design
- v. Specific Variant Generation Phase
- vi. Managing Configurable Products
- vii. Options and Variants Capabilities
- viii. Options and Variants Terminology
- ix. Mapping Product Configuration Approaches to Windchill
- x. Managing Product Families and Configurations in Windchill
- xi. Workflow for Defining Product Families
- xii. Managing Configurable CAD Structures
- xiii. Choice Assignment Support in Windchill and Creo
- xiv. Elements of a Configurable Structure
- xv. Example of a Top-Down Configuration Approach
- xvi. Example of a Bottom-Up Configuration Approach
- xvii. Overview of the List-based Option Selection and Filtering
- xviii. Support for Configurable Structures and Access Control
- xix. Enabling Functionality for Optional Product Structures
- xx. Access Control to Objects Used in Option Filtering

Knowledge Check Questions

Module 2. Working With Enterprise-wide Definitions

- i. Creating and Managing Enterprise-wide Definitions
 - ii. Options and Choices
 - iii. Required Options
 - iv. Single-Choice Options
 - v. List-Based Option Selection Object Types
 - vi. Enabling or Disabling the Sales and Design Option Subtypes
 - vii. Creating a New Options Soft Type
 - viii. Managing Options in an Option Pool
 - ix. Tree View of an Option Pool
 - x. Creating Options
 - xi. Viewing Information About an Option
 - xii. Editing an Option
 - xiii. Creating Option Groups
 - xiv. Assigning Options to Groups
 - xv. Viewing and Editing a Group
 - xvi. Creating and Working With Choices
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- xvii. Ensuring Name Uniqueness for Options and Choices
- xviii. Defining Global Rules for Options and Choices
- xix. Rule Validation
- xx. Include Rules
- xxi. Viewing and Modifying Include Rules
- xxii. Exclude Rules
- xxiii. Viewing and Modifying Exclude Rules
- xxiv. Enable Rules
- xxv. Viewing and Modifying Enable Rules

Knowledge Check Questions

Module 3. Using Option Sets to Establish Product Families

- i. Understanding Option Sets
- ii. Defining an Option Set
- iii. Option Set Change Management
- iv. Assigning Option Sets
- v. Rules for Determining Which Assigned Option Set to Use
- vi. Option Set Assignment Example
- vii. Viewing the Assigned Option Set
- viii. Removing an Assigned Option Set
- ix. Overriding the Assigned Option Set Revision
- x. Working with Option Sets
- xi. Working with Options Within the Option Set
- xii. Managing Choices in the Option Set
- xiii. Managing Option Set Choice Rules
- xiv. Creating an Option Set with Save As
- xv. Renaming an Option
- xvi. Restrictions on Option Names

Knowledge Check Questions

Module 4. Developing Configurable Product Structures

- i. Setting Up Configurable Product Structures
- ii. Configurable Modules
- iii. Creating Configurable Modules
- iv. Creating a Configurable Product
- v. Configurable Module Information Page - Tables and Actions
- vi. Toggling Parts Between Standard and Configurable
- vii. Viewing Reports

Knowledge Check Questions

Module 5. Assigning Expressions to Parts

- i. Assigning Expressions for the List-based Option Selection
 - ii. Viewing Expressions Assigned to Part Usage Links
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- iii. Assigning Expressions to Part Usage Links
- iv. Overriding the Version of the Assigned Option Set
- v. Assigning Expressions to Parts
- vi. Choice Where Used Information
- vii. Manufacturing Process Management Deliverables
- viii. Multiple Part Editing

Knowledge Check Questions

Module 6. Configurable Product Structure Filtering

- i. Filtering a Configurable Product Structure
- ii. Rules for Applying the Option Filter
- iii. Specifying the Filtering Criteria for the Option Filter
- iv. Effect of Rules on Choice Selection
- v. Saving Filtering Criteria

Knowledge Check Questions

Module 7. Advanced Selection Logic for Configurable Modules

- i. Developing Advanced Selection Logic for Configurable Modules
- ii. Adding and Editing a Parameter
- iii. Information Tab of the Edit Parameter Window
- iv. Constraint Tab of the Edit Parameter Window
- v. Equivalency Tab of the Edit Parameter Window
- vi. User Interface Tab of the Edit Parameter Window
- vii. User Interface Tab - Inserting a Page Break
- viii. Adding a Constraint
- ix. Case Table Editor
- x. Expression Editor
- xi. External Application Constraint Editor
- xii. Assigning a Logic Reference to Another Configurable Module
- xiii. Defining Part Parameters Using Another Configurable Module
- xiv. Mapping Parameter Values between Two Parts Example
- xv. Organizing Input for the Advanced Selection Logic
- xvi. Validating the Configurable Module Logic
- xvii. Adding a Child Resolution
- xviii. Variants from Configurable Modules with Advanced Selection Logic
- xix. Creating Variants with Collapsible Middle Nodes
- xx. Variant Properties

Knowledge Check Questions

Module 8. Creating and Managing Variants

- i. Creating and Managing Variants Process
 - ii. Configuring Parts to Create Variant Structures
 - iii. Set Filter Step: Specifying Expansion Criteria and Applying Filters
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- iv. Set Parameters Step: Providing Inputs for Part Parameters
- v. Violation of the Minimum or Maximum Number of Child Parts
- vi. Using the Input Pages
- vii. Preview Step: Reusing Existing Variant Specifications and Variants
- viii. Variant Specification Step: Defining a Variant Specification
- ix. Variant Part Step: Generating a Variant
- x. Controlling the Ability to Create Variant Parts
- xi. Enabling E-mail Notification
- xii. Module Variant Information Page
- xiii. Variant Specification Information Page
- xiv. Reconfiguring a Variant Specification
- xv. Comparing Variant Specifications
- xvi. Comparing Variant Solutions
- xvii. Comparing Variant Structures
- xviii. Revision and Change Management for Variant Specifications
- xix. Managing Deliverables
- xx. Filtering a Product Structure Using a Variant Specification
- xxi. Setting Date Effectivity for Choices

Knowledge Check Questions



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