

# Introduction to Windchill MPMLink 10.2

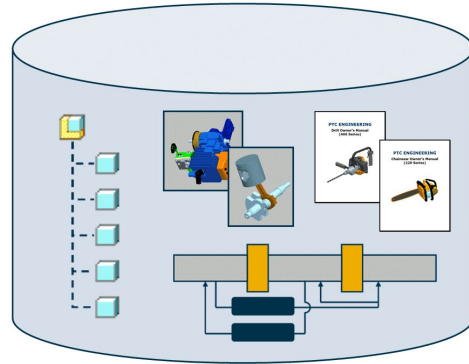
## Overview

Course Code TRN-4264-T

Course Length 2 Days

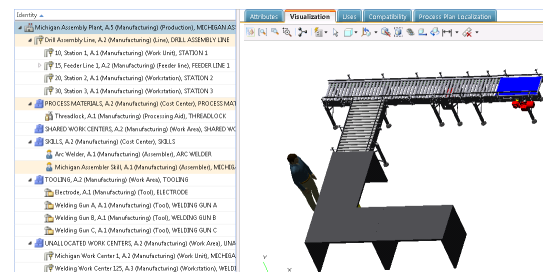
In this course, you will learn how to complete basic Windchill MPMLink functions. You will learn about MPMLink in the context of Manufacturing Process Management (MPM). You will also learn how to access and navigate the MPMLink environment, manage information, use MPMLink's visualization tools, and manage manufacturing changes attributed to product development. Other topics include how to use MPMLink to transform eBOMs to one or more mBOMs, and how to create process plans that consume the mBOM.

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

- Navigate the MPMLink environment
- Examine MPMLink utilities
- Transform an eBOM into an mBOM
- Create a process plan and associate it to the mBOM
- Create operations and allocate parts to them from the mBOM
- Allocate resources to the operations
- Use manufacturing standards in the operations
- Create illustrations and annotations for the operations
- View the production work instructions
- Create a time and cost roll-up
- Release process plans
- Change management overview



## Prerequisites

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- Introduction to Windchill PDMLink 10.2 for Heavy Users

## Audience

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- This course is intended for manufacturing engineers and manufacturing personnel that develop the mBOM or process plans including NC programmers, tooling designers, quality engineers, and production personnel. 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 MPM and Windchill MPMLink
Module	2	Introduction to the Windchill MPMLink Environment
Module	3	MPMLink BOM Translation Tools and Concepts
Module	4	Transforming eBOM to mBOM
Module	5	Introduction to Manufacturing Resources and Manufacturing Standards

### Day 2

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Module	6	Creating the Process Plan
Module	7	Allocating Objects to a Process Plan
Module	8	Refining the Process Plan
Module	9	Finalizing the Process Plan
Module	10	MPMLink Change Management

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## Course Content

### Module 1. Introduction to MPM and Windchill MPMLink

- i. Manufacturing Process Management Overview
- ii. Manufacturing Process Management Flow
- iii. Manufacturing Process Management Roles
- iv. MPM Challenges and MPMLink
- v. Concurrent Product and Process Development

### Module 2. Introduction to the Windchill MPMLink Environment

- i. Windchill MPMLink Environment
- ii. Windchill MPMLink Architecture
- iii. Windchill MPMLink Object Types
- iv. MPMLink Object Capabilities
- v. MPMLink Object Capabilities — Life Cycle and Configuration Management
- vi. MPMLink Object Capabilities — Container and Access Control
- vii. Windchill MPMLink Product Structure Modeling
- viii. Windchill MPMLink Data Structure
- ix. The Windchill MPMLink Utilities
- x. Accessing the MPMLink Explorers from the Folders Page
- xi. Accessing the MPMLink Explorers from Another Explorer
- xii. Accessing the MPMLink Explorers from an Object's Actions Menu
- xiii. The Manufacturing Product Structure Explorer
- xiv. The Manufacturing Resource Browser
- xv. The Manufacturing Resource Explorer
- xvi. The Manufacturing Standards Explorer
- xvii. The Process Plan Browser
- xviii. The Process Plan Explorer
- xix. The Manufacturing Gantt Explorer
- xx. Setting MPMLink Preferences

### Module 3. MPMLink BOM Translation Tools and Concepts

- i. MPMLink eBOM to mBOM
  - ii. Understanding the mBOM
  - iii. BOM Transformations and Challenges
  - iv. Understanding Views
  - v. Manufacturing Product Structure Explorer
  - vi. Manufacturing Product Structure Explorer Filters and Preferences
  - vii. Manufacturing Product Structure Explorer Task Tabs
  - viii. Manufacturing Product Structure Explorer Dual Structure Mode
  - ix. Manufacturing Product Structure Explorer Vertical Toolbar
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- x. Equivalence Link
- xi. Equivalence Link Example
- xii. Equivalence Link Context Example
- xiii. Equivalence Link Features — View Network
- xiv. Equivalence Link Features — Iterating Parts with Links
- xv. Equivalence Link Features — Updating Links
- xvi. Equivalence Link Features — Revising a Downstream Part
- xvii. Equivalence Link Features — History
- xviii. Equivalence Link Additional Features
- xix. Manufacturing Product Structure Equivalent Parts Tabs
- xx. Reference Link
- xxi. Equivalence Occurrence Link
- xxii. Status Indicators
- xxiii. Status Indicator Properties
- xxiv. Status Indicator Values
- xxv. Paste with Associative BOM Links
- xxvi. Creo View for Windchill MPMLink
- xxvii. Creo View for Windchill MPMLink Features
- xxviii. Selecting with Creo View for Windchill MPMLink

#### **Module 4. Transforming eBOM to mBOM**

- i. Associative eBOM-mBOM Best Practice
  - ii. Associative eBOM-mBOM Practice Overview
  - iii. Associative eBOM-mBOM Practice — Analyze eBOM
  - iv. Analyze eBOM — Step 1
  - v. Analyze eBOM — Step 2
  - vi. Analyze eBOM — Step 3
  - vii. Analyze eBOM — Step 4
  - viii. Associative eBOM-mBOM Practice — Restructure into mBOM
  - ix. Restructure into mBOM — Step 1
  - x. Restructure into mBOM — Step 2
  - xi. Restructure into mBOM — Step 3
  - xii. BOM Transformation — Dual Structure Mode
  - xiii. Transforming the mBOM
  - xiv. BOM Transformation Using Creo View
  - xv. Splitting BOM Quantities
  - xvi. Alternate BOMs and BOM Types
  - xvii. Restructure into mBOM — Step 4
  - xviii. Associative eBOM-mBOM Practice — Update and Maintain mBOM
  - xix. Update and Maintain mBOM — Step 1
  - xx. Update and Maintain mBOM — Step 2
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- xxi. Update and Maintain mBOM — Step 3
- xxii. Update and Maintain mBOM — Step 4
- xxiii. Update and Maintain mBOM — Step 5
- xxiv. Associative eBOM-mBOM Practice — Ensure BOM Conformity
- xxv. Ensure BOM Conformity — Step 1
- xxvi. Ensure BOM Conformity — Step 2
- xxvii. Associative eBOM-mBOM Practice — Release to Production Systems
- xxviii. Release to Production Systems — Step 1
- xxix. Release to Production Systems — Step 2
- xxx. Release to Production Systems — Step 3
- xxxi. Release to Production Systems — Step 4
- xxxii. Associative eBOM-mBOM Practice — Productivity Tips

## **Module 5. Introduction to Manufacturing Resources and Manufacturing Standards**

- i. MPMLink Manufacturing Resources and Standards
- ii. Manufacturing Resource Types
- iii. Manufacturing Resource Type — Plant
- iv. Manufacturing Resource Type — Resource Group
- v. Manufacturing Resource Type — Work Center
- vi. Manufacturing Resource Type — Tooling
- vii. Manufacturing Resource Type — Process Material
- viii. Manufacturing Resource Type — Skill
- ix. Understanding Compatibility Links
- x. Manufacturing Resource Equivalent Parts
- xi. Manufacturing Resource Browser
- xii. Building Resource Hierarchies
- xiii. Creating a New Resource
- xiv. Inserting Resources into Resource Hierarchies
- xv. Manufacturing Resource Explorer
- xvi. Locating and Using Manufacturing Resources
- xvii. Visualizing Manufacturing Resources
- xviii. Manufacturing Resources and Creo View
- xix. Manufacturing Standard Types
- xx. Manufacturing Standard Types — Manufacturing Standard Group
- xxi. Manufacturing Standard Types — Manufacturing Capability
- xxii. Compatibility Links for Manufacturing Capabilities
- xxiii. Manufacturing Standards Explorer
- xxiv. Locating and Using Manufacturing Standards

## **Module 6. Creating the Process Plan**

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- i. MPMLink Process Plans
- ii. MPMLink Support of Design Variation Management
- iii. Understanding Operations
- iv. Understanding Sequences
- v. Understanding Constraints
- vi. Standard Procedures
- vii. Plant Associations
- viii. Multiple Component Process Plans
- ix. Process Plan Browser
- x. Process Plan Browser Preferences
- xi. The PPB Command Ribbon
- xii. The Process Plan Browser Panes
- xiii. Process Plan Creation
- xiv. Process Plan Part Association
- xv. Inserting Operations into a Process Plan
- xvi. Process Plan Sequence Creation
- xvii. Renaming Operations
- xviii. Duplication of Operations
- xix. Inserting Operations from Manufacturing Capabilities

#### **Module 7. Allocating Objects to a Process Plan**

- i. Understanding Part Allocation
- ii. Part Allocation Types
- iii. Part Allocation Methods
- iv. Part Allocation Status
- v. Part Allocation Summary Report
- vi. Manufacturing Resource Allocation
- vii. Automatic Resource Allocation
- viii. Automatic Resource Allocation — Select Compatibles
- ix. Automatic Resource Allocation — Not Recommended
- x. Automatic Resource Allocation — Forbidden
- xi. Compatibility Mechanism
- xii. Capability Association
- xiii. Setting Constraints
- xiv. Illustrations for Operations
- xv. Creating Illustrations In Playback Action Mode
- xvi. Creating Illustrations Using the Operation Illustration Editor
- xvii. Additional Information and Recommendations for Allocating Objects to a Process Plan

#### **Module 8. Refining the Process Plan**

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- i. Completing the Process Plan
- ii. Operation Attributes
- iii. Understanding Control Characteristics
- iv. Work Center Attributes
- v. Formulas and Formula Sets
- vi. Work Center Formula Association
- vii. Operation Formula Association
- viii. Understanding the Work Instruction
- ix. Work Instruction Fields
- x. Work Instructions — Sequence and Sub-Operation
- xi. Work Instructions — Referenced Standard Procedure
- xii. Work Instructions — Launching Creo View

#### **Module 9. Finalizing the Process Plan**

- i. Finalizing Process Plans
- ii. Editing Individual Operations
- iii. Updating Illustrations Using the Operation Illustration Editor
- iv. mPSE Process Plan Allocation Indicator
- v. Associating Documents to Operations
- vi. Checking In the Process Plan and Operations

#### **Module 10. MPMLink Change Management**

- i. Change Management Overview
  - ii. Change Object Relationships
  - iii. Change Initiated by Design Engineering
  - iv. Change Initiated by Manufacturing
  - v. Assessment of Change Impact with MPMLink
  - vi. MPMLink Change Indicators
  - vii. Understanding MPMLink Effectivity
  - viii. Initiate Process Plan — Release to Production
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