

Introduction to PTC Windchill MPMLink 11.0

Overview

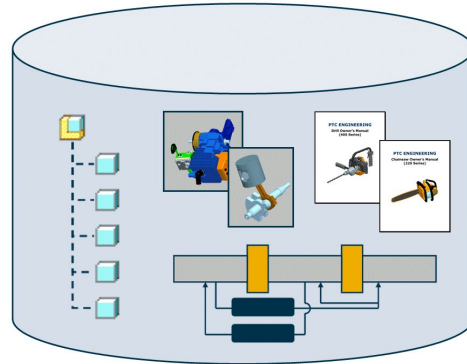
Course Code TRN-4754-T

Course Length 16 Hours

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.

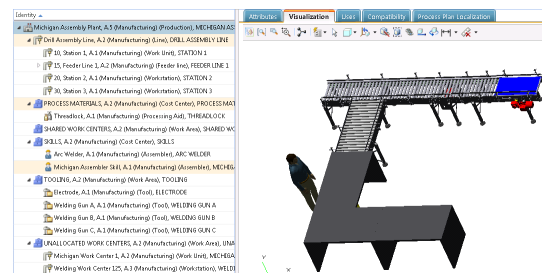
At the end of each module, you will complete a set of review questions to reinforce critical topics from that module. At the end of the course, you will complete a course assessment in PTC University Proficiency intended to evaluate your understanding of the course as a whole.

This course has been developed using Windchill 11.0 M010.



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

- Introduction to Windchill PDMLink 11.0 for Heavy Users

Audience

- 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

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

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

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

Knowledge Check Questions

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 - Change and Configuration Management
- 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. Manufacturing Associative Part Structure Browser (MAPSB)
- xi. Accessing the MAPSB Browser
- xii. The Manufacturing Resource Browser
- xiii. The Process Plan Browser
- xiv. MPMLink Explorers
- xv. The Manufacturing Standards Explorer
- xvi. The Manufacturing Gantt Explorer
- xvii. MPMLink Preferences

Knowledge Check Questions

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 Associative Part Structure Browser
 - vi. Manufacturing Associative Part Structure Browser Filters and Preferences
 - vii. Manufacturing Associative Part Structure Browser Task Tabs
 - viii. Manufacturing Associative Part Structure Browser Vertical Toolbar
 - ix. Equivalent Link
 - x. Equivalent Link Example
 - xi. Equivalent Link Context Example
 - xii. Equivalent Link Features - View Network
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- xiii. Equivalent Link Features - Iterating Parts with Links
- xiv. Equivalent Link Features - Updating Links
- xv. Equivalent Link Features - Revising a Downstream Part
- xvi. Equivalent Link Features - History
- xvii. Equivalent Link Additional Features
- xviii. MAPSB Equivalent Tabs
- xix. Reference Link
- xx. Equivalent Occurrence Link
- xxi. Status Indicator Values
- xxii. View MPMLink Objects in the Visualization Panel
- xxiii. View MPMLink Objects in Creo View Explorer

Knowledge Check Questions

Module 4. Transforming eBOM to mBOM

- i. Associative eBOM-mBOM Best Practice
 - ii. Associative eBOM-mBOM Practice Overview
 - iii. Analyzing eBOM
 - iv. Examining the Product Structure in Windchill
 - v. Comparing Parts and Associated CAD Documents
 - vi. Viewing in Manufacturing Associative Part Structure Browser
 - vii. Visualization Tab in MAPSB
 - viii. Viewing eBOM Using Creo View
 - ix. Analyzing eBOM Using Creo View
 - x. Identifying an Entire eBOM Assembly
 - xi. Restructuring into mBOM
 - xii. Highlight and Review Parts in MAPSB
 - xiii. Creating an Equivalent Manufacturing Assembly
 - xiv. Creating a New Downstream Branch
 - xv. Creating a New Downstream Part
 - xvi. Viewing a Downstream Equivalent Assembly
 - xvii. Adding Manufacturing Parts in mBOM
 - xviii. Inserting New Parts in mBOM
 - xix. Copying and Pasting from eBOM to mBOM
 - xx. The Paste Option
 - xxi. Pasting as New Branch
 - xxii. Pasting as New Part
 - xxiii. Viewing Partial mBOM in Visualization Tab
 - xxiv. Viewing Consumption Status
 - xxv. Viewing mBOM in Creo View
 - xxvi. Setting Path Filters
 - xxvii. Splitting BOM Quantities
 - xxviii. Adding Equivalence Links
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- xxix. Cut and Paste Feature
- xxx. Replace Feature
- xxxi. Duplicate Feature
- xxxii. Synchronizing Structure Associativity
- xxxiii. Alternate BOMs and BOM Types
- xxxiv. Creating Alternate BOMs
- xxxv. Viewing Alternate BOMs
- xxxvi. Enterprise Data Management in mBOMs
- xxxvii. Identifying Discrepancies in BOMs
- xxxviii. Updating and Maintaining mBOM
- xxxix. Reviewing Equivalence Status Indicators
 - xl. Reviewing Equivalence Links
 - xli. Analyzing Discrepancies
 - xlii. Updating Equivalence Links
 - xliii. Incorporating Updates from eBOM
 - xliv. Ensuring BOM Conformity
 - xlv. Highlighting Discrepant Parts in eBOM
 - xlvi. Copying and Pasting Discrepant Parts to mBOM
 - xlvii. Releasing to Production
 - xlviii. Checking in the mBOM
 - xlix. Approving mBOM using a Promotion Request
 - I. Releasing mBOM
 - li. Releasing mBOM to ERP Systems
 - lii. Associative eBOM-mBOM Productivity Tips

Knowledge Check Questions

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. Locating and Using Manufacturing Resources
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- xvi. Visualizing Manufacturing Resources
- xvii. Manufacturing Resources and Creo View
- xviii. Manufacturing Standard Types
- xix. Manufacturing Standard Types - Manufacturing Standard Group
- xx. Manufacturing Standard Types - Manufacturing Capability
- xxi. Compatibility Links for Manufacturing Capabilities
- xxii. Manufacturing Standards Explorer
- xxiii. Locating and Using Manufacturing Standards

Knowledge Check Questions

Module 6. Creating the Process Plan

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

Knowledge Check Questions

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 Inconsistency Report
 - vi. Viewing Allocated Parts
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- vii. Manufacturing Resource Allocation
- viii. Automatic Resource Allocation
 - ix. Automatic Resource Allocation - Select Compatibles
 - x. Automatic Resource Allocation - Not Recommended
 - xi. Automatic Resource Allocation - Forbidden
- xii. Compatibility Mechanism
- xiii. Capability Association
- xiv. Setting Constraints
- xv. Illustrations for Operations
- xvi. Creating Illustrations in Playback Action Mode
- xvii. Creating Illustrations Using the Operation Illustration Editor
- xviii. Additional Information and Recommendations for Allocating Objects to a Process Plan

Knowledge Check Questions

Module 8. Refining the Process Plan

- 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

Knowledge Check Questions

Module 9. Finalizing the Process Plan

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

Knowledge Check Questions

Module 10. MPMLink Change Management

- i. Change Management Overview
 - ii. Change Object Relationships
 - iii. Change Initiated by Design Engineering
 - iv. Change Initiated by Manufacturing
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- v. Assessment of Change Impact with MPMLink
- vi. MPMLink Change Indicators
- vii. Understanding MPMLink Effectivity
- viii. Initiating the Release Process
- ix. Completing a Change Notice Implementation Task
- x. Creating a Promotion Request

Knowledge Check Questions



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