Milling using Creo Parametric 4.0

Overview

In this course, you will learn how to machine products using Creo Parametric manufacturing tools. This course covers creating tool paths for three axis milling machines. During the course, you will learn how to complete each phase of the manufacturing process. You will start by creating manufacturing models and configuring the manufacturing environment. This will include configuring tools, fixtures, and machining operations. You will then learn how to create milling sequences, holemaking sequences, and post-process cutter location (CL) data to create machine code. After completing the course, you will be able to create numerical control (NC) programs for milling machines and post-process cutter location (CL) data to create machine specific code.

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 Creo Parametric 4.0 B000.

Course Objectives

- Understand the manufacturing process
- Create and configure manufacturing models
- Configure the manufacturing environment
- Create and modify milling sequences
- Create and modify holemaking sequences
- Use the process manager to create NC sequences
- Post-process cutter location (CL) data
Prerequisites

• Introduction to Creo Parametric – Fundamentals (Web Based Training) or equivalent experience

Audience

• This course is intended for manufacturing engineers and NC machinists
# Agenda

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Module 2. Creating Manufacturing Models
  i. Creating Manufacturing Models
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Module 3. Configuring Operations
  i. Configuring Operations
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Module 4. Using Reference Models
  i. Using Reference Models
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Module 5. Using Workpiece Models
  i. Using Workpiece Models
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Module 6. Creating and Using NC Model Assemblies
  i. Creating and Using NC Model Assemblies
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Module 7. Creating and Configuring a Work Center
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Module 8. Creating and Configuring Tools
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  ii. Creating Standard Milling Tools
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  iv. Creating and Using Tool Cutting Data
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Module 9. Using Template Manufacturing Models
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Module 10. Using Manufacturing Parameters
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  ii. Configuring Parameter Values
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Module 11. Creating Face Milling Sequences
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  ii. Lateral Control Face Milling Parameters
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  iv. Entry and Exit Face Milling Parameters

Knowledge Check Questions

Module 12. Creating Volume Milling Sequences
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  ii. Volume Milling with Mill Windows
  iii. Scanning Volume Milling Parameters
  iv. Depth and Lateral Control Volume Milling Parameters
  v. Stock Allowance Volume Milling Parameters
  vi. Gathering Mill Volumes
  vii. Modifying Volume Milling Toolpaths

Knowledge Check Questions

Module 13. Creating Profile Milling Sequences
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  ii. Depth and Lateral Control Profile Milling Parameters
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Knowledge Check Questions

Module 14. Creating Straight Cut Surface Milling Sequences
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Knowledge Check Questions

Module 15. Creating From Surface Isolines Surface Milling Sequences
  i. From Surface Isolines Surface Milling

Knowledge Check Questions

Module 16. Creating Cut Line Surface Milling Sequences
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Knowledge Check Questions

Module 17. Advanced Surface Milling Options
  i. Advanced Surface Milling Options

Knowledge Check Questions

Module 18. Creating Roughing and Re-roughing Sequences
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  ii. Roughing Scans and Entry and Exit Parameters
iii. Step Depth and Tolerance Control Roughing Parameters
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v. Roughing Corner Options

Knowledge Check Questions

Module 19. Creating Finishing Sequences
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ii. Editing Finishing Parameters

Knowledge Check Questions

Module 20. Creating Trajectory Milling Sequences
i. Understanding Trajectory Milling
ii. Creating Sketched Milling Tools
iii. Basic 2-Axis Trajectory Milling
iv. 2-Axis Trajectory Milling Depth Control Parameters
v. 2-Axis Trajectory Milling - Cutting Slices Parameters
vi. Trajectory Milling
vii. Trajectory Milling Multi-Step and Multi-Pass Parameters

Knowledge Check Questions

Module 21. Creating Holemaking Sequences
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ii. Basic Drilling
iii. Editing Drilling Toolpaths
iv. Creating and Using Drill Groups

Knowledge Check Questions

Module 22. Creating Engraving Sequences
i. Engraving on Flat and Complex Surfaces

Knowledge Check Questions

Module 23. Using the Process Manager
i. Using Process Manager Tools
ii. Editing Process Items
iii. Creating New Items in the Process Manager
iv. Creating and Using Manufacturing Templates

Knowledge Check Questions

Module 24. Creating and Post-Processing CL Data Files
i. Creating and Post-Processing CL Data Files

Knowledge Check Questions