

## Course Content

### Module 1. Introduction to the Creo Parametric Basic Modeling Process

- i. Creo Parametric Basic Modeling Process

### Module 2. Understanding Creo Parametric Concepts

- i. Understanding Solid Modeling Concepts
- ii. Understanding Feature-Based Concepts
- iii. Understanding Parametric Concepts
- iv. Understanding Associative Concepts
- v. Understanding Model-Centric Concepts
- vi. Recognizing File Extensions

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### Module 3. Using the Creo Parametric Interface

- i. Understanding the Main Interface
- ii. Understanding the Folder Browser
- iii. Understanding the Web Browser
- iv. Setting the Working Directory and Opening and Saving Files
- v. Understanding the Ribbon Interface
- vi. Working with Multiple Windows
- vii. Managing Files in Creo Parametric
- viii. Understanding Datum Display Options
- ix. Understanding Display Style Options
- x. Analyzing Basic 3-D Orientation
- xi. Understanding the View Manager
- xii. Creating and Managing View Orientations
- xiii. Managing and Editing Appearances
- xiv. Setting Up New Part Models

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### Module 4. Selecting Geometry, Features, and Models

- i. Understanding Creo Parametric Basic Controls
- ii. Using Drag Handles and Dimension Dragers
- iii. Understanding the Model Tree
- iv. Understanding Model Tree Filters
- v. Using the Geometry Selection Filter
- vi. Understanding Selection Filters
- vii. Selecting Items Using Direct Selection
- viii. Selecting Items Using Query Selection
- ix. Using the Search Tool

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### Module 5. Editing Geometry, Features, and Models

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- i. Renaming Objects
- ii. Utilizing Undo and Redo Operations
- iii. Understanding Regeneration and Auto Regeneration
- iv. Editing Features
- v. Editing Features Using Edit Definition
- vi. Activating and Editing Models
- vii. Deleting and Suppressing Items
- viii. Editing Feature and Component Visibility

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#### **Module 6. Creating Sketcher Geometry**

- i. Reviewing Sketcher Theory
- ii. Understanding Design Intent
- iii. Modifying the Sketcher Display
- iv. Utilizing Constraints
- v. Sketching with On-the-Fly Constraints
- vi. Sketching Lines
- vii. Sketching Centerlines
- viii. Sketching Rectangles and Parallelograms
- ix. Sketching Circles
- x. Sketching Arcs
- xi. Sketching Circular Fillets
- xii. Sketching Chamfers

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#### **Module 7. Using Sketcher Tools**

- i. Understanding Construction Geometry Theory
- ii. Sketching Points
- iii. Using Geometry Tools Within Sketcher
- iv. Manipulating Sketches Within Sketcher
- v. Dimensioning Entities Within Sketcher
- vi. Modifying Dimensions Within Sketcher
- vii. Sketcher Conflicts
- viii. Creating New Sketch Files
- ix. Placing Sections into Sketcher

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#### **Module 8. Creating Sketches for Features**

- i. Creating Sketches (Sketch Feature)
- ii. Specifying and Manipulating the Sketch Setup
- iii. Utilizing Sketch References
- iv. Using Entity from Edge within Sketcher

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**Module 9. Creating Datum Features: Planes and Axes**

- i. Creating Datum Features Theory
- ii. Creating Datum Axes
- iii. Creating Datum Planes

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**Module 10. Creating Extrudes, Revolves, and Ribs**

- i. Creating Solid Extrude Features
- ii. Adding Taper to Extrude Features
- iii. Common Dashboard Options: Extrude Depth
- iv. Common Dashboard Options: Feature Direction
- v. Common Dashboard Options: Thicken Sketch
- vi. Creating Solid Revolve Features
- vii. Common Dashboard Options: Revolve Angle
- viii. Creating Profile Rib Features

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**Module 11. Sketcher Workflow**

- i. Analyzing Open and Closed Sections
- ii. Creating Internal Sketches
- iii. Analyzing Sketcher Workflow
- iv. Creating Embedded Datum Features

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**Module 12. Creating Sweeps and Blends**

- i. Creating Sweeps with Open Trajectories
- ii. Creating Sweeps with Closed Trajectories
- iii. Analyzing Sweep Feature Attributes
- iv. Creating Blends by Selecting Parallel Sections
- v. Creating Blends by Sketching Sections
- vi. Analyzing Blend Options

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**Module 13. Creating Holes, Shells, and Draft**

- i. Common Dashboard Options - Hole Depth
- ii. Creating Coaxial Holes
- iii. Creating Linear Holes
- iv. Creating Radial and Diameter Holes
- v. Exploring Hole Profile Options
- vi. Creating Shell Features
- vii. Creating Draft Features
- viii. Creating Basic Split Drafts

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**Module 14. Creating Rounds and Chamfers**

- i. Creating Rounds Theory
- ii. Creating Rounds by Selecting Edges
- iii. Creating Rounds by Selecting a Surface and Edge
- iv. Creating Rounds by Selecting Two Surfaces
- v. Creating Full Rounds
- vi. Creating Round Sets
- vii. Creating Chamfers by Selecting Edges
- viii. Analyzing Basic Chamfer Dimensioning Schemes
- ix. Creating Chamfer Sets

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**Module 15. Project I**

- i. The Air Circulator
- ii. Piston Assembly Components
- iii. Crankshaft, Engine Block, Impeller, and Impeller Housing
- iv. The Frame and Bolt

**Module 16. Group, Copy, and Mirror Tools**

- i. Creating Local Groups
- ii. Copying and Pasting Features
- iii. Moving and Rotating Copied Features
- iv. Mirroring Selected Features
- v. Mirroring All Features
- vi. Creating Mirrored Parts

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**Module 17. Creating Patterns**

- i. Direction Patterning in the First Direction
- ii. Direction Patterning in the Second Direction
- iii. Axis Patterning in the First Direction
- iv. Axis Patterning in the Second Direction
- v. Direction Patterning with Multiple Direction Types
- vi. Creating Reference Patterns of Features
- vii. Creating Reference Patterns of Components
- viii. Deleting Patterns or Pattern Members

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**Module 18. Measuring and Inspecting Models**

- i. Viewing and Editing Model Properties
  - ii. Investigating Model Units
  - iii. Assigning Materials
  - iv. Analyzing Mass Properties
  - v. Using the Measure Tools
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- vi. Using the Measure Summary Tool
- vii. Creating Planar Part Cross-Sections
- viii. Measuring Global Interference

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**Module 19. Assembling with Constraints**

- i. Understanding Assembly Theory
- ii. Creating New Assembly Models
- iii. Understanding Constraint Theory
- iv. Understanding Assembly Constraint Status
- v. Assembling Components Using the Default Constraint
- vi. Orienting Components
- vii. Creating Coincident Constraints Using Geometry
- viii. Creating Coincident Constraints Using Datum Features
- ix. Creating Distance Constraints
- x. Creating Parallel, Normal, and Angle Constraints
- xi. Assembling Using Automatic
- xii. Utilizing the Accessory Window

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**Module 20. Assembling with Connections**

- i. Understanding Connection Theory
- ii. Dragging Connected Components
- iii. Assembling Components using the Slider Connection
- iv. Assembling Components using the Pin Connection
- v. Assembling Components using the Cylinder Connection
- vi. Analyzing Collision Detection Settings

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**Module 21. Exploding Assemblies**

- i. Creating and Managing Explode States
- ii. Creating Explode Lines
- iii. Animating Explode States

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**Module 22. Drawing Layout and Views**

- i. Analyzing Drawing Concepts and Theory
  - ii. Analyzing Basic 2-D Orientation
  - iii. Utilizing the Drawing Tree
  - iv. Creating New Drawings and Applying Formats
  - v. Creating and Orienting General Views
  - vi. Managing Drawing Sheets
  - vii. Adding Drawing Models
  - viii. Creating Projection Views
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- ix. Creating Cross-Section Views
- x. Creating Detailed Views
- xi. Creating Auxiliary Views
- xii. Creating Assembly and Exploded Views
- xiii. Modifying Drawing Views
- xiv. Creating New Drawings using Drawing Templates

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#### **Module 23. Creating Drawing Annotations**

- i. Analyzing Annotation Concepts and Types
- ii. Creating Tables from File
- iii. Creating BOM Balloons
- iv. Showing, Erasing, and Deleting Annotations
- v. Cleaning Up Dimensions
- vi. Manipulating Dimensions
- vii. Creating Driven Dimensions
- viii. Inserting Notes
- ix. Analyzing Drawing Associativity
- x. Publishing Drawings

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#### **Module 24. Using Layers**

- i. Understanding Layers
- ii. Creating and Managing Layers
- iii. Utilizing Layers in Part Models
- iv. Utilizing Layers in Assembly Models

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#### **Module 25. Investigating Parent/Child Relationships**

- i. Understanding Parent/Child Relationships
- ii. Viewing Part Parent/Child Information
- iii. Viewing Assembly Parent/Child Information
- iv. Viewing Model, Feature, and Component Information

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#### **Module 26. Capturing and Managing Design Intent**

- i. Handling Children of Deleted and Suppressed Items
  - ii. Reordering Features
  - iii. Inserting Features
  - iv. Redefining Features and Sketches
  - v. Capturing Design Intent in Sketches
  - vi. Capturing Design Intent in Features
  - vii. Capturing Design Intent in Parts
  - viii. Capturing Design Intent in Assemblies
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**Module 27. Resolving Failures and Seeking Help**

- i. Understanding and Identifying Failures
- ii. Understanding the Notification Center
- iii. Analyzing Geometry Failures
- iv. Analyzing Open Section Failures
- v. Analyzing Missing Part Reference Failures
- vi. Analyzing Missing Component Failures
- vii. Analyzing Missing Component Reference Failures
- viii. Analyzing Invalid Assembly Constraint Failures
- ix. Recovering Models
- x. Using Creo Parametric Help

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**Module 28. Project II**

- i. The Air Circulator
  - ii. Piston Assembly
  - iii. Engine Block and Drawing
  - iv. Blower Assembly
  - v. Engine Blower Assembly
  - vi. Completing the Design
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