

## Technical Education Services

### Autodesk Inventor Advanced Part Modeling



Course Length: 2 days

Autodesk Inventor Advanced Part Modeling is the second in a series of training guides on the Autodesk Inventor software that is published by ASCENT. The goal of this guide is to build on the skills acquired in the Autodesk Inventor Introduction to Solid Modeling training guide by taking students to a higher level of productivity when designing part models in Inventor.

In this training guide, we consider various approaches to part design and emphasize useful strategies. Specific advanced part modeling techniques covered include multi-body design, advanced lofts, advanced sweeps, coils, and surface modeling. Additional material aimed at increasing efficiency is also included:

iFeatures for frequently needed design elements, iParts for similar designs, translation options for importing data, and the Engineer's Notebook for communication. The guide also covers some miscellaneous drawing tools such as custom sketches symbols, working with title blocks and borders, and documenting iParts. With an understanding of these tools, students can begin to streamline the design and documentation process.

The major topics covered in this training guide are:

- Advanced geometry creation tools (work features, area lofts, sweeps, and coils)
- Using iFeatures and iParts to work efficiently with part models
- Advanced Drawing tools (tables for iParts, surfaces in drawing views, and custom sketched symbols)
- Advanced model appearance options
- Multi-body part modeling
- 2D and 3D sketching techniques
- Analysis tools
- Creating and editing basic surfaces
- Importing surfaces and surface repair tools
- Importing and exporting data
- Emboss and Decal features
- Adding notes with the Engineer's Notebook

For the current course  
schedule and to register  
for this course:

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## Prerequisites:

The material assumes a mastery of Autodesk Inventor basics as taught in Autodesk Inventor Introduction to Solid Modeling.

Students should know how to create and edit parts, use work features, and create and annotate drawing views, etc.

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### Day 1

#### Chapter 1: Tips & Tools

- Design Philosophies
- Sketching Tips
- Display Options
- Appearances

#### Chapter 2: Multi-Body Part Modeling

- Multi-Body Part Modeling

#### Chapter 3: Sketching Tools

- Splines
- 3D Sketches

#### Chapter 4: Advanced Work Features

- Grounded Work Points
- User Coordinate Systems

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### Chapter 5: Advanced Lofts, Sweeps, and Coils

- Area Lofts
- Advanced Loft Options
- Advanced Sweeps
- Coils

### Chapter 6: Analyzing a Model

- Analysis Types
- Analysis Procedures

## Day 2

### Chapter 7: Introduction to Surfacing

- Introduction to Surfaces
- Basic Surfaces
- Patch Surfaces
- Stitch Surfaces
- Sculpting with Surfaces
- Thickening & Offsetting a Surface
- Surfaces in Drawing Views

### Chapter 8: Additional Surfacing Options

- Extend and Trim Surfaces
- Replace Face with a Surface
- Delete Faces
- Copy Surfaces

### Chapter 9: Importing Surfaces • Importing Surfaces

- Repairing Imported Surfaces
- Construction Environment (Optional)

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### Chapter 10: Copying Between Parts (iFeatures)

- Creating iFeatures
- Inserting iFeatures
- iFeatures vs. Copy Feature
- Table-Driven iFeatures
- Editing iFeatures

### Chapter 11: iParts

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### Chapter 12: Translation

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### Appendix A: Creating Emboss and Decal Features

- Emboss Features
- Decal Features

### Appendix B: Custom Sketched Symbols

- Create Sketched Symbols
- Place Sketched Symbols
- AutoCAD Blocks

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### Appendix C: CAD Management

- Title Block and Border Customization
- Style Library Manager

### Appendix D: Engineer's Notebook

- Engineer's Notebook
- Notes

### Appendix E: Autodesk Inventor 2014 Certified Professional Exam Objectives

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