

Course: Solid Edge Advanced Modeling

Duration: 4 days

Version: 2021

At Course Completion

Students will have learned how to use advanced features in sketching, part modeling, and sheet metal modeling. They will have a working knowledge of curve creation and surface modeling. This knowledge will improve their overall modeling skills allowing them to become more efficient and effective in their design work.

Prerequisites

Here are the standard pre-requisites for the training course. Potential students should have completed the following prior to the class:

- **Completed the Solid Edge Fundamentals class**
- Understanding of Synchronous Technology is recommended but not absolutely necessary.**
- Have at least 3-month modeling experience with Solid Edge.
- Mechanical Design Experience
- Windows Experience

Students who lack any of these prerequisites should realize the impact it will have on their learning experience.

Course Content

Course consists of;

- 15 Video Lectures (PowerPoint's to support the Instructor's lecture).
- 126 Instructor lead video demonstrations.
- 56 practical activities to reinforce the lessons.
- Solution videos for each activity.

****Note:** This course teaches both advanced techniques in ordered modeling and advanced techniques in synchronous modeling. Users, who do not know the synchronous paradigm, may find some of the activities beyond their capabilities. Each activity has a solution video, which may assist those who may not know synchronous technology. But the videos may not answer every question that could arise. To get the most out of this course, these users may want to attend the synchronous course first.

Course Outline

Day 1:

- **Lesson 1: Additional Sketch Tools**
 - Ellipses
 - Conic curves
 - Free Sketch command
 - Auto-Scale
 - Grid and options
 - Moving and copying ordered and synchronous sketches
 - Wrapping sketches

- **Lesson 2: 3D Sketching**
 - 3D Sketching

- **Lesson 3: Creating and editing curves**
 - Create curves
 - Edit curves
 - Analyze curves
 - Create BlueDots
 - Edit BlueDots

- **Lesson 4: Indirect curve creation techniques**
 - Indirect curve commands
 - Project curves
 - Intersection curves
 - Cross curves
 - Contour curves
 - Derived curves
 - Split curves
 - Keypoint curves
 - Curve by table
 - Isocline curve
 - Helical curve
 - Spiral curve
 - Pierce and silhouette points
 - Draw curves overtop of a raster image

Day 2:

- **Lesson 5: Surface creation**
 - Create simple surfaces
 - Extruded
 - Revolved
 - Swept
 - Lofted
 - Create a Bounded surface
 - Create a Ruled surface
 - Create a BlueSurf
 - Edit a BlueSurf

- **Lesson 6: Surface manipulation tools**
 - Extend Surface
 - Offset Surface
 - Copy Surface
 - Trim Surface
 - Intersect Surfaces
 - Delete Faces
 - Stitched Surface
 - Round/Blend
 - Replace Face
 - Split Face
 - Parting Split
 - Parting Surface

- **Lesson 7: Advanced Surfacing tools**
 - Redefine Surface
 - Model Reflective Display
 - Curvature combs
 - Section Curvatures
 - Draft Face Analysis
 - Curvature Shading
 - Zebra Stripes

- **Lesson 8: Advanced Solid Modeling Features**
 - Helical protrusion and cutouts
 - Normal protrusion and cutouts
 - Advanced options in;
 - Extrude command
 - Sweep command
 - Loft command
 - Solid Sweep
 - Web Network as base feature

Day 3:

- **Lesson 9: Additional Part Creation Tools – Part 1**
 - Family of Parts
 - Family of Parts Table
 - Inserting Part copies
 - Boolean commands
 - One Body Assembly
 - Scale Body

- **Lesson 10: Additional Part Creation Tools – Part 2**
 - Multi-body modeling
 - Multi-body features
 - Solid to Solid Intersections
 - Duplicate Body/Feature Command
 - Model comparison

- **Lesson 11: Advanced Treatment features**
 - Advanced options in;
 - Round command
 - Draft command
 - Multi-Slot features
 - Synchronous Web Network
 - Enclosed command
 - Decal Command

- **Lesson 12: Advanced Patterning**
 - Pattern along a curve options
 - Fill Pattern
 - Pattern by Table
 - Pattern Recognition

Day 4:

- **Lesson 13: Advanced Part and Sheet Metal Modeling**
 - Nested profiles for sheet metal Tab
 - Punch (Emboss) in Sheet Metal & Part
 - Create Blank – Flatten anything
 - Design for Cost in Sheet Metal
 - Multi Edge flanges
 - Flat pattern relief patch

- **Lesson 14: Direct Editing (ordered)**
 - Direct edits to ordered models

- **Lesson 15: Introduction to Subdivision Modeling**
 - Subdivision Modeling

Note: The number of lessons covered on any given day could vary due to the progress of the student.