

Online Course: Solid Edge Synchronous with Sheet Metal for Experienced Ordered Users

Duration: 4 days (estimated completion time)

Version: SE 2025

Course Description

This course is designed to teach synchronous modeling to existing users of Solid Edge's ordered or traditional modeling. Students will learn how to construct and edit part and sheet metal models in the synchronous paradigm. They will also learn how to use integrated models (synchronous and ordered features together in the same part model). Along with learning the benefits of using synchronous components in assemblies.

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 Ordered Basics with Sheet Metal class
- Have a good understanding of the **Solid Edge ordered** part and sheet metal modeling.

Course Content

Course consists of.

- 13 Video Lectures (includes PowerPoints and live demonstrations)
- 54 practical activities to reinforce the lessons.

Course Outline

Day 1:

- **Lesson 1: Introduction to Synchronous Technology**
 - What is Synchronous Technology
 - Similarities with the ordered paradigm
 - Setting up the synchronous templates
 - Switching between the paradigms
 - Synchronous selection tools
 - Interface tools unique to the synchronous paradigm

- **Lesson 2: Synchronous Sketching**
 - Reference planes in synchronous modeling
 - Synchronous coordinate systems
 - Synchronous sketching
 - Draw directly on faces of bodies
 - Plane locking
 - Sketch View command
 - Sketch elements in PathFinder
 - Dimension migration from sketch to model
 - Sketch regions
 - Shared commands

- **Lesson 3: Synchronous Geometry Creation**
 - Face Sets
 - System-Defined Sets
 - User-Defined Sets
 - Quick Shapes
 - Extrude Command
 - Revolve Command
 - Swept and Loft Commands

- **Lesson 4: Synchronous Geometry Editing**
 - 3D steering wheel
 - 2D steering wheel
 - Move/rotate face command
 - Select Set Priority
 - Design Intent Panel

Day 2:

- **Lesson 5: Design Intent (Live Rules)**
 - Types of Live Rules
 - Introduction to the Solution Manager

- **Lesson 6: 3D Dimensioning & Geometric Relationships**
 - Synchronous 3D Dimensions
 - Placement
 - Locked and unlocked
 - Variable Table in Synchronous
 - Relate Commands
 - Placement
 - 3D Geometric constraints (persistent)
 - Live Sectioning
 - Creating and editing
 - Revolved Feature - Auto-create Live Section

➤ **Lesson 7: Additional Synchronous Geometry Creation**

- Rounds and blends
- Chamfers
- Draft
- Thin wall
- Lip
- Rib
- Web Network
- Slot
- Holes – 3D centric
- Threads

Day 3:

➤ **Lesson 8: Re-using Synchronous Features**

- Patterning Features
 - Circular
 - Rectangular
 - Pattern Along Curve
 - Fill Pattern
- Mirror faces
- Feature Libraries
- Cut, Copy or Ctrl+Drag, Paste
- Face Detach and Attach

➤ **Lesson 9: Integrated Part Modeling**

- Move to Synchronous
- PathFinder
- Integrated Mode Menus
- Integrated Mode Save
- Integrated Mode Models – Display Mode
- Integrated Mode Modeling
- Integrated Mode – Coord System and Ref Plane behavior
- Sync Sketch behavior in Ordered
- Editing Integrated Mode models

➤ **Lesson 10: Assemblies with Synchronous Parts**

- Assembly Selection
- Assembly Handle Manipulation
- Move Face in assembly
- Editing from the Assembly
- Persistent relationships across assemblies
- Steering Wheel Assembly Options

Day 4:

Lesson 11: Synchronous Sheet Metal

- Tab
- Flange
- Contour Flange
- Close bend corners
- Hem
- Jog
- Bend

Lesson 12: Synchronous Sheet Metal Features

- Feature Origin
- Feature Profiles
- Editing procedural features
- Louvers
- Dimple and Drawn Cutout
- Bead and Gusset Features
- Break Corner
- Cutout Across Bends
- Holes
- Mirror and Pattern commands

Lesson 13: Synchronous functions unique to Sheet Metal

- Synchronous Sheet Metal Manipulation
- Flat Patterns
- Integrated modeling

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