SOLIDWORKS 2016 Essentials

    Below you will find the lesson outline agenda for our class. Sometimes more than one lesson will be covered per week. There will be weekly quizzes, 4 exams and 2 tests not included in this outline.

Successful completion of this class is required to receive a Thompson M-TEC Certificate of Completion, which includes class projects, homework and exams.

Lessons	Covered in Class (Educational)	SOLIDWORKS Essentials
1.	Introduction to the SOLIDWORKS Interface	What is the SOLIDWORKS Software? SOLIDWORKS file structures File References Opening Files Saving Files The SOLIDWORKS User Interface Customizing SOLIDWORKS Using the Command Manager Properties
2.	Basic Functionality	Introduction to Sketching Sketching Sketch Entities Basic Sketching Rules That Govern Sketches Design Intent Sketch Relations Dimensions Sketching Guidelines Boss Feature (Extrude) Parent Child Relationships

3.	Basic Part Modeling	Basic Modeling Terminology Choosing the Best Profile Choosing the Sketch Plane Details of the Part Sketching on a Planar Face Cut Feature View Selector Using the Hole Wizard Filleting
4.	Symmetry and Draft	Case Study: Ratchet
		Design Intent Boss Feature with Draft Symmetry in the Sketch Sketching Inside the Model View Options Using Model Edges in a Sketch Creating Trimmed Sketch Geometry
5.	Patterning	Why Use Patterns? Linear Pattern Circular Patterns Reference Geometry Planes Mirror Patterns Using Pattern Seed Only Sketch Driven Patterns
6.	Revolved Features	Case Study: Handwheel Design Intent Revolved Features Building the Rim Building the Spoke Edit Material Mass Properties

7.	Shelling and Ribs	Shelling and Ribs Analyzing and Adding Draft Other Options for Draft Shelling Ribs Full Round Fillets Thin Features
8.	Editing: Repairs	Part Editing Editing Topics Sketch Issues Freezing Features FilletXpert
9.	Design Changes	Part Editing Design Changes Information From a Model Rebuilding Tools
		Replace Sketch Entity Sketch Contours
10.	Configurations	Configurations Using Configurations Other Methods to Create Configurations Using Global Variables and Equations Creating Equalities Global Variables Defining the Overall Width Equations Creating a Minimum Edge Distance Modeling Strategies for Configurations Editing Parts that Have Configurations Design Library

11.	Using Drawings	More About Making Drawings Section View Model Views Broken View Detail Views Drawing Sheets and Sheet Formats Projected Views Annotations
12.	Bottom-Up Assembly Modeling	Case Study: Universal Joint Bottom-Up Assembly Creating a New Assembly Position of the First Component FeatureManager Design Tree and Symbols Adding Components Mating Components Using Part Configurations in Assemblies Sub-assemblies Smart Mates Inserting Sub-assemblies Pack and Go
13.	Using Assemblies	Using Assemblies Analyzing the Assembly Checking for Clearances Changing the Values of Dimensions
		Exploded Assemblies Explode Line Sketch Bill of Materials Assembly Drawings
14.	Foreign Geometry	Opening Foreign Geometry Repairing Foreign Geometry Modifying Foreign Geometry Exchanging Geometry Formating Foreign Geometry

15.	Weldments	3D Sketching Structural Members Cut List Merge Results Bodies to cut Gussets Drawings - Relative View Dimensioning Angle Cuts
16.	Sheet Metal	Sketching for Sheet Metal Sheet Metal Features Sheet Metal Thickness Flat Pattern K Factor Detailing Drawings
17.	Surfacing	Repairs Surfacing in 3D Design Organic Surfacing
18.	Learning Project	Bringing Practical Application to Your Current Job
19.	Visit a Local Business	Visit a Local Business