

Course Outline

Introduction to Solid Edge – TEC D 175

Week 1

Day 1

Introduction

Class Roster verification, Syllabus, Course Outline, Verification of Student Folders on campus server

***Reading Assignment: Chapter 1:**

Solid Edge Environments, System Requirements for Solid Edge, Important Terms and Definitions, Getting Started With Solid Edge, User Interface of Solid Edge, Radial Menu, Simulation Express, Using Intellisketch, Units for Dimensions, Automatic Saving Option, Color Scheme in Solid Edge

Day 2

Chapter 1: Introduction to Solid Edge

***Chapter 1:**

Solid Edge Environments, System Requirements for Solid Edge, Important Terms and Definitions, Getting Started With Solid Edge, User Interface of Solid Edge, Radial Menu, Simulation Express, Using Intellisketch, Units for Dimensions, Automatic Saving Option, Color Scheme in Solid Edge

Week 2

Day 1

Chapter 2 – Sketching in the Part Environment:

***Reading Assignment: Chapter 2:**

Starting a New Document in the Part Environment, Starting a New Part file by Using the New Dialog Box, Transition between Part Environments, Starting a Sketch in the Part Environment, Sketching Tools, The Drawing Display Tools, Selecting Sketched Entities, Deleting Sketched Entities

*Recommended Tutorials: 1 and 2 (Extra Credit)

*Required Exercises: 1, 2, and 3

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Day 2**Chapter 3 – Adding Relationships and Dimensions to Sketches:*****Reading Assignment: Chapter 3:**

Geometric Relationships, Conflicts in Relationships, Deleting Relationships, Dimensioning the Sketched Entities, Adding Automatic Dimensions (Only in the Ordered), Understanding the Concept of Fully Constrained Sketches, Measuring Sketched Entities

*Recommended Tutorials: 1, 2 and 3 (Extra Credit)

*Required Exercises: 1, 2, and 3

Week3**Day 1****Chapter 4 – Editing, Extruding, and Revolving the Sketches:*****Reading Assignment: Chapter 4:**

Editing the Sketches, Writing Text in the Sketching Environment, Inserting Images into Sketches, Converting Sketches into Base Features, Creating Ordered Features, Rotating the View of a Model in 3D Space, Restoring Standard Views, Setting the Display Modes, Improving the Display Quality of a Model

*Recommended Tutorials: 1, 2 and 3 (Extra Credit)

*Required Exercises: 1, 2, 3, and 4

Day 2**Chapter 5 – Working with Additional Reference Geometries :*****Reading Assignment: Chapter 5:**

Additional Sketching and Reference Planes, Creating Reference Planes (Synchronous), Understanding Coordinate Systems, Using the Other Options of the Extrude Tool, Creating Cutout Features, Using the Edges of Existing Features, Projecting Edges (Ordered), Advanced Drawing Display Tools

*Recommended Tutorials: 1, 2 and 3 (Extra Credit)

*Required Exercises: 1, 2, and 3

Week 4**Day 1****Chapter 6 – Advanced Modeling Tools-I :*****Reading Assignment: Chapter 6:**

Advanced Modeling Tools, Creating Holes (Ordered), Creating Holes (Synchronous), Creating Rounds (Ordered), Creating Rounds (Synchronous), Creating Chamfers (Ordered), Creating Rectangular and Circular Patterns (Ordered), Creating Patterns (Synchronous), Mirroring Features and Bodies (Ordered)

*Recommended Tutorials: 1, 2 and 3 (Extra Credit)

*Required Exercises: 1, 2, 3, and 4

Day 2**Chapter 7 – Editing Features:*****Reading Assignment: Chapter 7:**

Editing Models in the Synchronous Environment, Adding Dimensions to the Model, Editing the Round Feature (Synchronous), Adding Relations, Other Selection Handles, Modifying Faces Using the Steering Wheel, Modifying the Model by Editing Dimensions, Creating Live Sections, Modifying the Model by Detaching and Attaching Faces, Modifying the Model by Isolating Features, Editing Features in the Ordered Environment, Suppressing Features, Unsuppressing the Suppressed Features, Deleting Features, Copying and Pasting Features, Rolling Back a Model to a Feature, Converting Ordered Features to Synchronous, Assigning Color to a Part, Feature, or Face, Playing Back the Construction of Features, Checking the Physical Properties of a Model, Modifying the Display of Construction Entities

*Recommended Tutorials: 1, 2 and 3 (Extra Credit)

*Required Exercises: 1, 2, and 3

*Extra Credit: Tutorial 4

Week 5**Day 1****Chapter 8 – Advanced Modeling Tools-II :*****Reading Assignment: Chapter 8:**

Advanced Modeling Tools, Creating Threads, Adding Drafts to the Model, Adding Ribs to the Model, Adding Thin Wall Features (Ordered), Adding Thin Wall to a Particular Region, Adding a Lip to the Model, Creating Web Networks, Creating Vents, Creating Mounting Bosses (Ordered), Reordering Features

*Recommended Tutorials: 1, 2 and 3 (Extra Credit)

*Required Exercises: 1, 2, and 3

*Extra Credit: Tutorial 4

Day 2**Chapter 9 – Advanced Modeling Tools-III :**

*Reading Assignment: Chapter 9:

Advanced Modeling Tools, Creating Swept Protrusions, Creating Swept Cutouts, Creating Lofted Protrusions, Creating Lofted Cutouts, Creating Helical Protrusions, Creating Helical Cutouts, Creating Normal Protrusions, Creating Normal Cutouts

*Recommended Tutorials: 1, 2 and 3 (Extra Credit)

*Required Exercises: 1, 2, and 3

Week 6**Day 1****Chapter 10 – Assembly Modeling-I :**

*Reading Assignment: Chapter 10:

The Assembly Environment, Creating the Bottom-Up Assembly, Creating the Top-Down Assembly, Creating the Pattern of Components in an Assembly, Mirroring a Component in an Assembly, Creating Material Removal Features in an Assembly, Moving the Individual Components, Moving Multiple Components

*Recommended Tutorials: 1 and 2 (Extra Credit)

*Required Exercises: 1 and 2

Day 2**Chapter 11 – Assembly Modeling-II :**

*Reading Assignment: Chapter 11:

Creating Subassemblies, Editing the Assembly Relationships, Editing the Assembly Components, Modifying Synchronous Components in the Assembly Environment, Dispersing Subassemblies, Replacing Components, Simplifying Assemblies Using Visibility Options, Interference Detection in Assemblies, Creating Fastener System Creating Fastener System, Creating the Exploded State of Assemblies

*Recommended Tutorials: 1, 2 and 3 (Extra Credit)

*Required Exercise: 1

Week 7**Day 1****Chapter 11 – Assembly Modeling-II :**

*Reading Assignment: Chapter 11:

Creating Subassemblies, Editing the Assembly Relationships, Editing the Assembly Components, Modifying Synchronous Components in the Assembly Environment, Dispersing Subassemblies, Replacing Components, Simplifying Assemblies Using Visibility Options, Interference Detection in Assemblies, Creating Fastener System Creating Fastener System, Creating the Exploded State of Assemblies

Day 2**Chapter 12 – General Editing, and Dimensioning the Drawing Views :*****Reading Assignment: Chapter 12:**

The Draft Environment, Types of Views Generated in Solid Edge, Generating Drawing Views, Working with Interactive Drafting, Manipulating Drawing Views, Adding Annotations to the Drawing Views, Adding Callouts to Drawing View, Adding Surface Texture Symbols to a Drawing View, Specifying Edge Conditions, Adding a Feature Control Frame to Drawing Views, Adding Datum Target to Drawing View, Adding a Datum Frame to Drawing View, Adding New Drawing Sheets, Editing the Default Sheet Format, Evolving a 3D Model from a 2D Drawing, Generating the Exploded Views of Assemblies, Creating Associative Balloons and Parts List

*Recommended Tutorials: 1, 2 and 3 (Extra Credit)

*Required Exercises: 1 and 2

*Extra Credit: Tutorial 4

Week 8**Day 1****Chapter 13 – Surface Modeling :*****Reading Assignment: Chapter 13:**

Surface Modeling, Creating Surfaces in Solid Edge, Creating Surfaces Using the BlueSurf Tool, Surfaces Using the Bounded Tool, Stitching Multiple Surfaces to Create a Single Surface, Creating Offset Surfaces, Copying a Surface, Creating a BlueDot (Ordered), Creating a Curve at the Intersection of Two Surfaces, Trimming the Surfaces, Extending the Surfaces, Replacing the Faces of a Part with a Surface, Splitting Faces, Creating Curves in 3D by Selecting Keypoints, Creating Curves by Table, Projecting the Curves on Surfaces, Creating a Curve at the Projection of Two Curves, Drawing a Curve on a Surface, Deriving Curves, Splitting a Curve, Splitting a Body, Adding Thickness to a Surface, Creating Rounds Using Blending, Adding a Draft, Using the Parting Split Tool, Using the Parting Surface Tool, Using the Offset Edge Tool

*Recommended Tutorials: 1 and 2 (Extra Credit)

* Recommended Exercises: 1, 2 and 3 (Extra Credit)

Day 2**Chapter 14 – Sheet Metal Design :*****Reading Assignment: Chapter 14:**

The Sheet Metal Module, Setting the Sheet Metal Part Properties, Creating the Base of the Sheet Metal Parts, Adding Flanges to a Sheet Metal Part, Adding Flanges in Synchronous Sheet Metal, Creating Contour Flanges, Adding Contour Flanges in Synchronous Sheet Metal, Creating Lofted Flanges, Adding the Jog to the Sheet, Bending the Sheet Metal Part, Unbending the Sheet Metal Part, Rebending the Sheet Metal Part, Filletting or Chamfering Corners of a Sheet Metal Part, Closing the 2 Bend Corners of a Sheet Metal Part, Creating Dimples in a Sheet Metal Part, Creating Louvers in a Sheet Metal Part, Creating Drawn

Cutouts in a Sheet Metal Part, Creating Beads in a Sheet Metal Part, Adding Gussets to a Sheet Metal Part, Adding Hems, Converting a Solid Part into a Sheet Metal Part, Ripping the Corners of a Solid Part, Creating the Flat Pattern of a Sheet Metal Part

*Recommended Tutorials: 1 and 2 (Extra Credit)

* Recommended Exercises: 1 and 2 (Extra Credit)

Week 9

Day 1 **Chapter 15 – Student Project**

*Project #1

Day 2 **Chapter 15 – Student Project**

*Project #1

Week 10

Day 1 **Chapter 15 – Student Project**

*Project #2

Day 2 **Chapter 15 – Student Project**

*Project #2

*Extra Credit: Exercise 1 (+40 pts.)