Advanced Parts in SolidWorks (3+ Days)

**** Ve-I Bonus! * Tips & Tricks + Visualization & Appearances***

Advanced Sketching

Polygon	Explains how to sketch polygons
Ellipse	Explains how to sketch ellipses
Partial Ellipse	Explains how to sketch partial ellipses
Parabola	Explains how to sketch a parabola
Conic Curves	Shows how to sketch conic curves driven by endpoints and Rho value
Splitting Entities	Explains how to split a sketch entity
Derived Sketches	Explains how to use the derived sketch command
Sketch Xpert	Shows how to resolve sketches using the Sketch Xpert
Sketch Picture	Shows how to insert an image into a sketch
AutoTrace	Shows how to use autotrace to automatically trace a sketch picture and convert it to sketch entities
3D Sketching I	Explains how to create a 3D sketch
3D Sketching II	Explains how to create a more complex 3D sketch
3D Sketching with Planes	Shows how to create 3D sketches on reference planes
3D Sketch Planes	Shows how to create and define 3D sketch planes in a 3D sketch

Splines

Splines Overview	Introduces the Spline Tool
Control Points	Controlling splines by using Control Points
Spline Handles	Controlling splines with Spline Handles
Control Polygon	Controlling splines with the Control Polygon
Curvature	Understanding and controlling Curvature
Widgets and Tools	Spline tools including minimum radius and inflection points.
Style Splines	Shows how to create style splines and its capabilities
Spline Settings	Detailed review of the Spline Property Manager

Curves

Helixes & Spirals	Explains how to sketch a helix or a spiral
Curve Through XYZ Points	Explains how to create a curve using data points
Composite Curve	Explains how to create composite curves
Curve Through Reference Points	Explains how to create a curve through the use of reference points
Projected Curves	Explains how to use the projected curve command
Intersection Curve	Explains how to sketch an intersection curve

Advanced Fillets

Fillet Options	Explains the different fillet options
Variable Size Fillets	Explains how to use the variable radius fillet command
Face Fillets	Explains how to use the face fillet command
Hold Line Fillets	Explains how to use the hold line fillet command
Curvature Continuous Fillets	Explains how to use the curvature continuous fillet command
Full Round Fillets	Explains how to use the full round fillet command
Fillet Xpert	Shows how to apply, change, and remove fillets using the Fillet Xpert
Corner Xpert	Shows how to use the Corner Xpert to control filleted corners
Conic Fillets	Explains how to use the Conic Rho and Conic Radius profile options

Sweeps

Introduction to Sweeps	Introduces the sweep feature
The Basic Sweep	Explains how to use the sweep feature
Path Options	Explains the different path options for the sweep feature
Guide Curves	Explains how to add guide curves when using the sweep feature
Multiple Guide Curves	Explains how to add multiple guide curves when using the sweep feature
Profile Orientation	Explains how to use different orientations when creating a sweep feature
Twist	Explains how to twist a swept feature
Swept Cut	Explains how the sweep feature can be used to remove material
Threads	Shows how to add threads to a part using the sweep feature

Lofts

Introduction to Lofts	Explains the difference between the loft and the sweep feature
The Basic Loft	Explains how to use the loft feature to create a part
Closing a Loft	Explains the close loft option when using the loft feature
Loft Profiles	Explains the different profiles that can be used with the loft feature
Start/End Constraints	Explains how to use constraints to alter the loft
Guide Curves	Explains how to use guide curves when creating a loft
Profile Geometry	Explains how to create lofts using profile geometry
Centerline	Explains how to control a loft using centerlines
Adding Loft Sections	Explains how to add loft sections to a completed loft feature
Cutting with a Loft	Explains how to remove material from a part using the loft feature

Boundary Features

Boundary Boss/Base	Creates geometry by using curves to define the boundaries of the feature
Boundary Cut	Removes geometry by using curves to define the boundaries of the feature

Flex Feature

Flex Feature Introduction	Introduces the Flex Feature
Flex Overview	Explains the different functions used to control a flex feature
Bending	Explains how to bend a part using the flex feature
Twisting	Explains how to twist a part using the flex feature
Tapering and Stretching	Explains how to taper and stretch a part using the flex feature

Indent Feature

Indent Feature	Explains how to use the indent feature
Using Multiple Tool Bodies	Explains how to use the indent feature when working with multiple bodies
Multiple Tool Regions	Explains how to use the indent feature when working with multiple body regions
Surfaces and the Cut Option	Explains how to use the indent feature when working with surfaces

Dome and Wrap

Dome	Used to create a concavity or convexity to planar or non-planar faces
Wrap	Used for wrapping sketch geometry onto a planar or non-planar face

Multibody Parts

Multibody Parts	Introduces the concept of multibody parts
Creating Multiple Bodies	Explains how to create multiple bodies
Splitting Bodies - Part A	Explains how to split apart a single body into multiple bodies
Splitting Bodies - Part B	Explains how to split apart a single body into multiple bodies
Multibody Design Techniques	Explains the advantages of designing parts using multibodies
Combining Multiple Bodies	Explains the advantages of combining multiple bodies into one
Intersect	A flexible tool that lets you intersect solids, planes, and surfaces to modify existing geometry, or create new geometry
Swept Cuts with Bodies	Shows how to create a Solid Swept cut using a body
Additional Techniques	Explains two additional techniques in multibody design
Positioning Bodies	Shows how to position multi-bodies using mates.
Multibody Exploded View	Shows how to create an exploded view of a multibody part

Hands-On Exercise: Light Bulb

Light Bulb	Instructions to complete the Light Bulb Exercise

Hands-On Walkthrough: Light Bulb

Overview	Overview of the Light Bulb model
Bulb Base	Using a Revolve to generate the base of the light bulb
Fluorescent Tube	Generating the tube shape using Intersection Curves
Connecting the Tube	Connecting the upper ends of the Intersection Curves using Spline on Surface
Completing the Tube	Connecting the lower ends of the Intersection Curves to the bulb base using free form splines
Base Threads	Generating threads by cutting away material using a Sweep Cut

Section Test

+ * Ve-I Bonus! *

Workshop - Tips and Tricks

15 Years of Tips and Tricks with Phil Sluder

Introduction	Newton, Einstein, and Pascal walk into a bar...

Sketching

Check Sketch for Feature Usage	Where is a sketch being used or referenced in a model?
Dimensioning Tips	You've probably added dimensions before, but here are some tips you might not know about.
Angle Dimension and Arc Length Dimension	and a true Jon Hirschtick story...

Parts and Features

Delete Face	What do you do when delete face doesn't work?
Bowl Feeder Geometry	What surface techniques should you use to create a bowl feeder?
Tubing with Composite Curves	Before the days of 3D sketches...
Rocket Surgery	Are there any rocket scientists in the room?
Shelling Twice	When would you use the shell twice?
Helical Tubing	You may never need to create a tube like this, but here's how you would...
Up to Next vs. Up to Body	What's the difference?
Vary Sketch	Can you create multiple solid bodies using vary sketch?
Sleazy Features	What is a sleazy feature?
Contour Selection	How do you extrude multiple contours at once?
Thin Extrude - Multiple Contours	Which direction will the extrude be created in?
Drilled Hole Wizard	Can you create a flat bottomed drilled hole with the hole wizard?

Assemblies

Part Configurations	What's different between two PCB subassemblies?
Lost in Space	What should you do when zoom to fit can't find your parts?
Tooling Balls	How do you make an inspection part for an assembly with tooling balls?
Wiring Cable Assembly	How do you create wiring bundles without the routing add-in?
Ribbon Cable Assembly	How do you create a ribbon cable without the routing add-in?
Springs	The Engineer vs The Animator...

Drawings

Clipboard Trouble	The item on the clipboard cannot be pasted here....
Copying Custom Properties	How do you do this without PDM software?

Conclusion

"Do My Work For Me" Wizard	The latest SOLIDWORKS add-in

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Visualization and Appearances in SolidWorks

Appearances

Introduction	Overview of appearances and appearance properties
Appearances - Part A	Explains how to apply an appearance to an entire model
Appearances - Part B	Explains how to apply appearances to different parts, features, and faces
Copy and Paste Options	Shows how to copy and paste appearances
Textural Appearances	Explains how to apply a textural appearance material
Advanced Mapping Options	Explains how to map a textural appearance onto a model
Surface Properties	Explains how to adjust the surface properties of an appearance
Appearance Illumination	Explains how to specify the illumination properties of an appearance

Scenes

Scenes Overview	Gives an overview of applying scenes to the model
Editing Scenes	Shows how to apply scenes to your model using the Scene Editor
Background Images	Explains how to add a background to the scene
Adding Depth	Explains how to add a sense of depth to a scene
Environment Images	How to use reflections of an environment on the rendered model

Lights

What are Lights?	Introduction to Lighting in PhotoWorks
Ambient Light	Shows how to control ambient lighting in the model
Directional Light	Explains directional lighting and shows how to apply it to your model
Point Light	Explains point lights and shows how to apply it in the model
Spot Light	Explains spot lights and shows how to apply it in the model

Views

Standard Views	Shows several different ways to access the many standard views in SOLIDWORKS
Custom Views	Shows how to create a custom view and access it in the future
Viewports	Shows how to view your model from several perspectives at once using a viewport
Updating Views	Shows how to update the standard views in the model and how that affects a drawing
The View Cube	Shows how to use the view selector cube

Cameras

Introducing Cameras	Explains what a camera is in SOLIDWORKS
Adding Cameras	Shows how to create a camera and add it to the model
Showing Cameras	Explains how to show and hide cameras in the graphics area
Camera View	Shows how to access a camera view
Walkthroughs	Shows how to create a walkthrough animation of your design

Decals

Introduction	Gives an overview of using Decals on a model
Decal Editor	Shows how to apply decals to your model using the Decal Editor
Creating Decals	Explains how to create decals from image files
Applying Decals	How to apply decals to the model
Mapping Decals	Shows how to map decals onto the model
Decal Illumination	Shows how to adjust the illumination of a decal
Masking	Shows how to filter out part of a decal image using masks

Display States

What is a Display State?	Introduces the concept of a display state
Adding Display States	Shows how add and edit display states
Assembly Display States	Shows some display state options specific for working with assemblies

Section Test