SketchUp Essentials Course Outline

Introductions and Setup
- ☐ About the instructor/ Introductions
- ☐ What we're going to do: Syllabus Review
- ☐ Sample project images
- ☐ About SketchUp: History, Capabilities and Uses
- ☐ The Difference between 3D and BIM (Building Information Modeling)
- ☐ Interior Space vs. Exterior Space

Program Setup
- ☐ Opening SketchUp: The Initial Setup "out of the box"
- ☐ Using Single and Multiple Screens
- ☐ Preparing the interface
  - ▪ Toolbars and Menus
  - ▪ Saving your setup
  - ▪ Saving space for laptop use
  - ▪ Program Settings
  - ▪ Model Info and Preferences
- ☐ Menu Options, Icon review
- ☐ 3D Space: Axes, Views
- ☐ Orbiting, Zooming and Panning

Basic Geometry/ Drawing Tools
- ☐ Create Lines
- ☐ Create Rectangles, Squares
- ☐ Create Polygons/Circles
- ☐ Create surfaces from lines, Circles and polygons
- ☐ Triangulation
- ☐ How SketchUp handles Curves
- ☐ Freehand tool
- ☐ Single and Multiple Selections

3D Geometry Construction Tools
- ☐ Create 3-dimensional geometry
- ☐ Create surfaces from lines in 3D
- ☐ Demonstrate stickiness of geometry in 3D
- ☐ Create geometry with the Push/Pull Tool
- ☐ Push/Pull with Modifier Keys
- ☐ Lock inferences

Modification Tools
- ☐ Move, Copy
- ☐ Using Move to Resize Curves and Curved Surfaces
- ☐ Rotate, Copy
  - ▪ Defining the Rotation Axis
  - ▪ Using Rotate to Twist
- ☐ Scaling and Resizing
- ☐ Offsetting Lines and faces
- ☐ Follow Me
  - ▪ Follow Me with Components
  - ▪ Round Objects
- ☐ Auto fold
- ☐ Displaying and Smoothing Edges

Making Multiple Copies
- ☐ Internal Arrays
- ☐ Non-Orthogonal Copies
- ☐ Multiple Rotated Copies

Groups and Components
- ☐ The differences between Groups and Components
- ☐ The importance of structuring your models with Groups and Components
- ☐ Demonstration of Component inferencing behavior and characteristics
- ☐ Creating and Saving Your Own Components
- ☐ How to edit a Component
- ☐ Removing Objects from a Group or Components
- ☐ Scaling Components
  - ▪ Aligning Components
  - ▪ Resizing Components
- ☐ Healing the edge of adjacent components
- ☐ Work with the Components Browser
  - ▪ Finding Components in the 3D Warehouse
  - ▪ Opening the 3D Warehouse in Your Internet Browser
  - ▪ Inserting and Editing Components

Intersecting
- ☐ Cutting
- ☐ Arch Cutouts Using Groups
- ☐ Intersect with Context and Selected

Painting, Materials, and Textures
- ☐ Applying Materials
- ☐ Editing Materials
- ☐ Using Images as Textures
- ☐ Material Collections
- ☐ Material Translucency
- ☐ Double-Sided Faces
- ☐ Materials of Groups and Components
- ☐ Overview of Materials of Groups
- ☐ Double-Sided Faces of Groups
- ☐ Materials of Components
- ☐ Wrapping Images

Adding Text and Dimensions
- ☐ Text
- ☐ Measuring Length and Area
- ☐ Dimensions
  - ▪ Creating Dimensions
  - ▪ Dimension Display and Properties
  - ▪ Dimensioning Using the Text Tool
- ☐ 3D Text

Miscellaneous Basic Exercises
- ☐ Healing a Divided Line
- ☐ Smoothing Faces of Rotate-Copied Curved Objects

Sectioning
- ☐ Sectioning Overview
- ☐ Using Sections for Interior Design
- ☐ Using Section Planes to Create Floor Plans

Styles
- ☐ Pre-Defined Styles
- ☐ Editing Styles
  - ▪ Model Display
  - ▪ Styles: Edge Settings
  - ▪ Styles: Face Settings
  - ▪ Styles: Background Settings
  - ▪ Styles: Watermarks Settings
  - ▪ Styles: Modeling Settings
- ☐ Saving Your Style as a Template
- ☐ Mixing Styles
- ☐ Watermarks and Backgrounds
- ☐ Sketchy Edges and the SketchUp "look"

Imaging and Presentation

- ☐ Using Scenes/Creating Camera views
- ☐ Using Layers
  - ▪ Using Layers to Hide Objects
  - ▪ Using Layers for Labeled Presentations and to Simulate Animation
  - ▪ Using Layers to Explore Design Options
  - ▪ Using Layers of Groups and Components
- ☐ Interior Manipulations, i.e. Field of View
- ☐ Lighting and Shadows
- ☐ Creating a solar study
- ☐ Fog
- ☐ Exporting to JPG and other formats

- ☐ Exporting your model
- ☐ Examples of different presentation techniques

A Taste of Animations

- ☐ Short Sample Video
- ☐ Animation set up
- ☐ Creating Walk-Through Scenes
- ☐ Adding and Updating Scenes
- ☐ Using Sections and Styles in an Animation
- ☐ Creating and saving an animation

Finishing Up

- ☐ Resources
- ☐ Q&A