

## Google SketchUp

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Google SketchUp Pro

## Google earth

### Courses

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**The Art Institute of Colorado Continuing Education Department  
offers Google Authorized Earth and SketchUp training:**

1. Created by Google technical curriculum developers
2. Delivered by Google Certified Trainers while trainees work on a dedicated client

**GENERAL INFORMATION:**

**Location:** The Art Institute of Colorado 1200 Lincoln Street Denver, CO 80203

**Typical Schedule:** Weekdays or Weekends 9:00 am to 5 pm, or Evenings 6:00 pm to 9:00 pm  
Contact Continuing Education Department for current schedule.  
Click here for [Continuing Education Calendar](#).

**How to Apply:**

1. Complete the attached application and email or fax to (303) 824-4995
2. Contact Jim Skeen at (303) 824-4737 or [jskeen@aii.edu](mailto:jskeen@aii.edu)
  - A. Confirm seat reservation and Q and A.
  - B. Payment options credit card, check, invoice with purchase order.

**GOOGLE™ SKETCHUP 101**

Visualizing spaces in three dimensions is critical to the success of the design of architectural spaces. The interplay of light, color, space and form make exciting spaces function successfully. Traditional methods for exploring these issues are very labor intensive. Use of computer software has enabled quicker and sometimes more accurate study of models to be generated. Course Objectives SketchUp enables you to draw using a familiar pencil and paper paradigm in a software context.

The SketchUp Essentials 1 course provides students with an excellent choice for beginning to learn to use SketchUp. This course is designed to provide students with little or no 3 dimensional drawing or SketchUp experience, but who want to start to create 3 dimensional models using

***To be successful in this course, you should already be able to:***

- Define fundamental geometric terms including: polygon, parallel, perpendicular, axes, and arc.
- Define 3-dimensional drawing terms including: rendering, field of view, and point of view.
- Demonstrate mouse skills including: double-click, single-click, drag, and right-click.

***Upon completion of this course, you should be able to:***

- Maintain coplanar geometry
- Create surfaces from lines
- Create surfaces from circles
- Generate surfaces from polygons
- Generate surfaces from arcs
- Create surfaces from freehand curves
- Demonstrate stickiness of geometry
- Create 3 dimensional geometry
- Apply Materials
- Create surfaces from lines in 3D
- Demonstrate stickiness of geometry in 3D
- Work with SketchUp Styles, Apply, Edit
- Demonstrate Use Groups and Components to isolate geometry
- Differentiate between a group and a component
- Create a component
- Edit a component and component behavior
- Create component nesting for efficient modeling
- Scaling and it's effect on similar components
- Understand the Component browser
- Download components for Google 3D Warehouse
- Create a model in Google Earth stickiness in the model
- Export models to Google 3D Warehouse
- Create 2 dimensional geometry (in a 3 dimensional or 3D environment)
- View a model in 3D
- Connect and generate forms
- Lock an inference
- Generate forms quickly
- Restore a surface
- Create a model, step-by-step
- Mirror a model
- Create an array
- Import component model
- Create 3D Text
- Alter a model using built-in Styles
- Locate a site in Google Earth
- Import the site to SketchUp
- Insert a component from a file
- Model from a Photograph
- Photomatch
- Texture Tweaker
- Understand the Materials browser
- Use the Follow-me tool
- Swap (reload) components in a model

## **GOOGLE™ SKETCHUP 201**

Visualizing spaces in three dimensions is critical to the success of the design of architectural spaces. The interplay of light, color, space and form make exciting spaces function successfully. Traditional methods for exploring these issues are very labor intensive. Use of computer software has enabled quicker (and sometimes more accurate) study models to be generated and explored.

Successful integration of modeling software within an architectural practice hinges on how well the computer information can be used, not only inside the computer (to other software packages), but also outside the computer to communicate to clients and review agencies. The output from your SketchUp computer models may be rendered in many different ways; from straight computer printouts, to raster images for retouching with photo editing software, to vector polygon graphics reworked with illustration software, to producing accurate perspective underlays for developing hand renderings. Course Objectives

SketchUp enables you to draw using a familiar pencil and paper paradigm in a software context. The Sketchup 201 course is designed to provide students with an excellent choice for learning to use SketchUp to build up a three dimensional model from surfaces defined by the edges that are drawn. This course is intended for students with basic experience with SketchUp, and who want to create efficient 3 dimensional models using SketchUp.

### **Prior Skills**

#### **To be successful in this course, you should already be able to:**

- Define fundamental geometric terms including: polygon, parallel, perpendicular, axes, and arc.
- Define 3-dimensional drawing terms including: rendering, field of view, and point of view.
- Demonstrate mouse skills including: double-click, single-click, drag, and right-click (context-click).
- Demonstrate proficient use of the line (pencil), move, erase, orbit, zoom, and select tools in SketchUp.
- You will need a basic 3-button scroll wheel mouse to use SketchUp efficiently.

#### **Upon completion of this course, you should be able to:**

- Demonstrate stickiness in the model
- Use Groups and Components to isolate geometry
- Know the difference between a group and a component
- Create a component
- Create component nesting for efficient modeling
- Demonstrate the effect of scaling on similar components
- Understand the Component browser
- Combine components to create a model in Google Earth
- Demonstrate component behavior and how to edit a component
- Browse for and download components for Google 3D Warehouse Swap (reload) components in a model
- Locate a site in Google Earth
- Import the site to SketchUp
- Insert a component from a file
- Model from a Photograph
- Texture Tweaker
- Understand the Materials browser
- Use the Follow-me tool
- Work with SketchUp Styles, Apply, Edit
- Photomatch

## **GOOGLE™ SKETCHUP ADVANCED SKILLS**

SketchUp is a powerful tool for communicating 3D design concepts in professional work flows. The advanced topics course is designed for experienced SketchUp users who want to investigate advanced topic areas including working with CAD, creating curved surfaces and employing advanced presentation techniques for SketchUp models. Detailed instruction in the use of Google LayOut for print presentations is provided. SketchUp's strength is its ability to integrate with other systems. Participants will be given a thorough review of the entire design environment.

### ***Prior Skills***

#### ***To be successful in this course, you should already be able to:***

Define create basic geometric forms, including polygons, arcs and use more advanced features such as the FOLLOWME tool and TEXTURE TWEAKER.

Use Groups and Components to isolate geometry, know the difference between a group and a component and understand component inferencing behavior and how to edit a component.

Create materials and use the materials browser and libraries.

Understand how to apply SketchUp Styles.

Users should also have basic familiarity with use of LayOut for creating presentations.

We recommend that participants in the advanced topics complete the Essentials 1 and 2 courses and have several weeks of modeling experiencing with SketchUp prior to enrolling in this course. We do not recommend that students attempt to complete the course immediately after completion of another SketchUp training class.

You will need a basic 3-button scroll wheel mouse to use SketchUp efficiently.

#### ***Upon completion of this course, you should be able to:***

- Import and Export CAD
- Understand and employ existing Ruby Scripts
- Leverage Advanced Presentation Techniques
- Understand photorealistic rendering options
- Understand the uses of the Section Tool
- Photomatch from multiple images and integrate a model into a site photograph
- Efficiently organize groups, components, and layers to increase model performance
- Entourage and Share models with 3D Warehouse
- Create and manipulate Curved Forms
- Show off a model in Google Earth
- Make compelling presentations with Google LayOut

## **GOOGLE™ SKETCHUP ADVANCED LANDSCAPE**

Visualizing and communicating spaces in three dimensions is critical to the success of the design of architectural spaces. The interplay of light, color, space and form make exciting spaces function successfully. Traditional methods for exploring these issues are very labor intensive. Use of computer software has enabled quicker (and sometimes more accurate) study models to be generated and explored.

Successful integration of modeling software within a design-related practice hinges on how well the computer information can be used, not only inside the computer (to other software packages), but also outside the computer to communicate to clients and review agencies. The output from your SketchUp computer models may be rendered in many different ways; from straight computer printouts using Styles, to raster images for retouching with photo editing software, to vector polygon graphics reworked with illustration software, to producing accurate perspective underlays for developing hand renderings. Course Objectives

Landscape Design is a discipline that encompasses many work flows that result in designs ranging from human-scale site fixtures to regional masterplans. While many of these designs can be created from scratch, often AutoCAD files, surveyor data, hand renderings, and existing photography are all incorporated in the design process as well as the end result. Expressing all this information in three dimensions will greatly facilitate communication of the design to others.

### **Prior Skills**

#### **To be successful in this course, you should already be able to:**

- Demonstrate proficiency with a standard three-button mouse in the Windows environment.
- Demonstrate proficiency navigating within a SketchUp environment.
- Understand “Click-Release-Click” and “Click and Drag” methods when using SketchUp tools.
- Be able to create linear and radial arrays within SketchUp using the Move/Copy tool.
- Have a basic understanding and ability to navigate in Google Earth.
- You will need a basic 3-button scroll wheel mouse to use SketchUp efficiently.

#### **Upon completion of this course, you should be able to:**

- Create custom face-me plant material from image files.
- Reload and Replace components.
- Import and Export your SketchUp model to and from Google Earth.
- Utilize various plug-ins and ruby scripts such as “drop.rb” and “SimplifyContours.rb”.
- Model terrain utilizing functions of the “Sandbox” tools.
- Understand advanced techniques working with large files including the “Hide Rest of Model” feature when editing components.
- Import file types from other software packages including AutoCAD, ArcGIS, and Adobe Photoshop.

## **GOOGLE™ SKETCHUP FOR GEOMODELING**

The Mastering 3D Using SketchUp: Geomodeling Training course is designed to provide students with a comprehensive overview of the process and benefits of exploring the interoperability of SketchUp and Google Earth, and a deeper look into the Google 3D Warehouse. Course Objectives

This course can help participants understand fundamental principals of SketchUp as a 3D modeling software. Participants can learn how to create 3D objects quickly with basic and intermediate tools, as well as how to control model precision. Participants can learn to use image texturing to depict details of a model to reduce work and file size, as well as altering images in other applications for more efficient texture rendering. Participants can learn the process of tagging geo-referenced information to a 3D model using SketchUp. This course will also provide participants the techniques they need to review and improve their 3D model quality and complexity for better final geomodeling results. Prior Skills

### ***To be successful in this course, you should already be able to:***

Define fundamental geometric terms including: polygon, parallel, perpendicular, axes, and arc.

Define 3-dimensional drawing terms including: rendering, field of view, and point of view.

Demonstrate mouse skills including: double-click, single-click, drag, and right-click (context-click).

You will need a basic 3-button scroll wheel mouse to use SketchUp efficiently.

### ***Prior Skills***

#### ***To be successful in this course, you should already be able to:***

- Create 2-dimensional (2D) geometry in a 3-dimensional (3D) environment
- Create and manipulate surfaces from lines, circles, polygons, arcs, etc.
- Create and manipulate surfaces in 3D
- View and navigate your model in 3D
- Understand and leverage stickiness in the model
- Maintain coplanar geometry and use/lock inferences
- Use the Push/Pull Tool, and Follow Me Tool
- Generate forms quickly and apply materials
- Create and use Groups and Components
- Understand the difference between a Group and a Component
- Edit Groups and Components
- Utilize photographs in your model
- Manipulate images/textures with Texture Tweaker
- Create materials and use the Materials Browser
- Align building to terrain data
- Upload your model to the Google 3D Warehouse
- Import site information (imagery and topography) from Google Earth
- Position and export models to Google Earth Overview

## **GOOGLE™ EARTH 101**

The Basics training is designed to demonstrate the features that make Google Earth Pro a powerful tool for visualizing, analyzing and presenting geographic information. The class is designed for new users and those seeking to leverage Google Earth Pro as a productivity tool.

### ***Prior Skills***

***To be successful in this course, you should already be able to:***

You will need a basic 3-button scroll wheel mouse to use Google Earth Pro efficiently.

***Upon completion of this course, you should be able to:***

- Understand all aspects of the product interface including Search, Places, Layers and folder structures.
- Navigate the 3D browser with control and confidence
- Create and Customize Placemarks
- Generate Placemarks from spreadsheet data files
- Create and manipulate complex points, paths and polygons
- Create and position image overlays such as logos and site plans and screen overlays]
- Import and visualize GIS data and Shape files
- Create geometry and measure area
- Create customized Tours
- Generate compelling Printed Output and Video Tours
- Share custom information via KML/KMZ and Network Links

