



3D-ReMath

O3 Curricula

Part B

“Digital Sketching”

Session 1	Basic Tools & SketchUp Installation
Description:	
In this lesson we learn how to set up our workspace for the following lessons. First, we learn about popular 3D modeling software used for 3D printing. Then we learn how to install SketchUp, a popular free choice. We learn how to create an account for SketchUp, and then how to download and install the software. Finally, we take a first look at SketchUp's interface by opening a demo project.	
Course Materials: SketchUp Make 2017 exe file (download from sketchup.com), SketchUp Web Version (app.sketchup.com)	
Session 2	User Interface & Tools
Description:	
In this lesson we take a deeper look at SketchUp's user interface. We learn about the way the interface is divided into useful sections, and what kind of information each section contains. Then we take a closer look some basic tools and their functionality. These tools include: Select, Eraser, Rectangle, Circle, Push/Pull, Move, Orbit and Pan.	
Course Materials: SketchUp Web Version (app.sketchup.com)	
Session 3	Making 2D Shapes / Line Tool
Description:	
In this lesson we learn how to draw basic 2D shapes. We learn how to use the line & shape tools by drawing lines, rectangles, circles and arcs.	
Course Materials: SketchUp Web Version (app.sketchup.com)	
Session 4	Making 3D Shapes / Push Pull Tool
Description:	
In this lesson we learn how to turn 2D objects into 3D. By using the Push/Pull Tool, we turn the 2D shapes we created on the previous version into 3D. We also learn how to cut holes into 3D objects, by utilizing the same tool.	
Course Materials: SketchUp Web Version (app.sketchup.com) and files from the previous lesson	
Session 5	Modeling a Simple Object - Part 1
Description:	

In this lesson we learn how to model a simple 3D object and customize it to our liking. We model a simple house by drawing a 2D layout and turning it into 3D with the Push/Pull Tool. We then use the same tool to add a door and windows.

Course Materials: SketchUp Web Version (app.sketchup.com)

Session 6

Modeling a Simple Object - Part 2

Description:

In this lesson we continue modelling our house by adding a roof and chimney. We learn how to move things around using the Move tool, and how to combine different objects.

Course Materials: SketchUp Web Version (app.sketchup.com) and files from the previous lesson

Session 7

Finding Models Online

Description:

We learn how to search for websites like Thingiverse to find 3D models. We also learn how to download .zip files, extract them and preview the 3D models on our computer.

Course Materials: Windows 10 and access to thingiverse.com

Session 8

Modifying Existing Models

Description:

In this lesson we learn how to customize 3D models found on the Internet. We download a 3D model from Thingiverse, import it into SketchUp and customize it by adding our name, using the Text Tool.

Course Materials: SketchUp Web Version (app.sketchup.com) and access to thingiverse.com