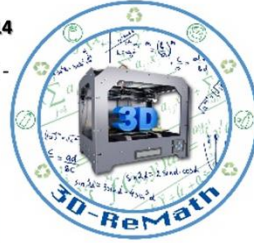




**Project code:**  
**2019-1-EL01-KA201-062914**  
*Erasmus+ Call: 2019 - KA2 -*



# 3D-ReMath

## O3 Curricula

### Part C

## “Open Source S/W for Digital Files”

Session 1	Introduction to Slicer Software
<b>Description:</b>	
Introduction to the process of preparing models for the 3D printer through slicer software. We learn what slicer software does and why it is necessary in order to 3D print a file.	
<b>Course Materials:</b> Powerpoint slides and Ultimaker Cura (download from <a href="https://ultimaker.com/software/ultimaker-cura">ultimaker.com/software/ultimaker-cura</a> )	
Session 2	Preparing Models for the 3D Printer
<b>Description:</b>	
In this lesson we use Ultimaker Cura to slice a model for our 3D printer. We go through the basic settings provided by the software, like quality settings, temperature settings and previews.	
<b>Course Materials:</b> Ultimaker Cura ( <a href="https://ultimaker.com/software/ultimaker-cura">ultimaker.com/software/ultimaker-cura</a> )	
Session 3	Printing Troubleshooting
<b>Description:</b>	
In this lesson we learn about common 3D printing problems and how to fix them. These problems include Bed Adhesion, Warping, Layer-Shifting and Stringing.	
<b>Course Materials:</b> Print Quality Guide from <a href="https://www.simplify3d.com/support/print-quality-troubleshooting/">simplify3d.com</a> ( <a href="https://www.simplify3d.com/support/print-quality-troubleshooting/">https://www.simplify3d.com/support/print-quality-troubleshooting/</a> )	
Session 4	3D Printing & Math: Fractions
<b>Description:</b>	
In this lesson we learn how to better understand Fractions, using 3D models found on Thingiverse. We also learn how to design similar models ourselves on SketchUp.	
<b>Course Materials:</b> <a href="https://www.thingiverse.com/thing:3561000">https://www.thingiverse.com/thing:3561000</a> (Blocks) <a href="https://www.thingiverse.com/thing:1673809">https://www.thingiverse.com/thing:1673809</a> (Fractions) <a href="https://www.thingiverse.com/thing:184205">https://www.thingiverse.com/thing:184205</a> (Fractionator)	
Session 5	3D Printing & Math: Addition / Substraction
<b>Description:</b>	
In this lesson we learn how to better understand Addition and Substraction, using a 3D model found on Thingiverse. This model allows pupils to visualize basic operations by placing blocks on a balanced seesaw.	
<b>Course Materials:</b> <a href="https://www.thingiverse.com/thing:182549">https://www.thingiverse.com/thing:182549</a> (Seesaw Maths)	
Session 6	3D Printing & Math: Pythagorean Theorem

<b>Description:</b>	
In this lesson we learn how to better understand the Pythagorean Theorem, using a 3D model found on Thingiverse. This foldable 3D model allows pupils to better visualize the Pythagorean Theorem.	
<b>Course Materials:</b> <a href="https://www.thingiverse.com/thing:245202">https://www.thingiverse.com/thing:245202</a> (Pythagorean Theorem)	
Session 7	3D Printing & Math: Integers
<b>Description:</b>	
In this lesson we learn how to better understand Integers, using a 3D model found on Thingiverse. This model illustrates mathematical integers, positive and negative numbers and how they relate to each other.	
<b>Course Materials:</b> <a href="https://www.thingiverse.com/thing:186499">https://www.thingiverse.com/thing:186499</a> (Number Line)	
Session 8	3D Printing & Math: Platonic Solids
<b>Description:</b>	
In this lesson we learn how to better understand Platonic Solids, using a 3D model found on Thingiverse. This cube shape can be printed flat and then folded into shape, to illustrate the 6 sides of a cube.	
<b>Course Materials:</b> <a href="https://www.thingiverse.com/thing:75093">https://www.thingiverse.com/thing:75093</a> (Foldable Cube)	