

WPO: 3D Printing

1. Design Assignment

You will design a creative alternative to a spoon. In order to build the spoon alternative, you will have to use the 3D printer. Note that it is also allowed to print some parts of your design and use other materials such as a rope. You are totally free in the design but take the printer limitations into consideration.

2. Printer Limitations

The printer can build artefacts with a size of l x w x h 15 cm. In addition, use one colour for a print.

3. Creating the Spoon

You can use any 3D modelling tool which exports in a .stl format. Windows 10 has 3D Builder as a native application. After you modelled the spoon (or parts of it), you have to set printing settings in the Cura application (see download link below). Add your .stl model in Cura and set the following settings:

- Nozzle size: this is the thickness of the printed plastic. If you have a lot of small details in your model then take a small size otherwise take something in between (I am not an expert yet 😊).
- Material: select PLA
- Printer: select Ultimate 2+
- Support Platform: check this box if your design risks to fall over i.e. small and long parts

Export your model on the printers SD card. Ready to print! Follow the instructions next to the printer to start. Since printing can take easily a few hours, we will make a schedule so that each group can print on their slot.

4. Who Has the Best Design?

We will do an evaluation of the innovative spoons! The idea is as follows. In the exercise class of week 8 (week after the printing) each group has to test the spoon of the other groups. I will bring soup of course and I am pretty sure we will have fun! After testing a spoon, you will be given a questionnaire. At the end of the day, each group will have about 30 (i.e. amount of students who attend the WPO) filled in questionnaires. In week 10, we will analyse this data and see who wins the design price. The winner receives surprise!! 😊

5. TO DO

Download modelling software or use 3D builder and download Cura
<https://ultimaker.com/en/resources/20406-installation-cura-2-1>

Send me your favourite soup flavour!! I will bring (and make if I have time) soup with the most send flavour. Do not forget to bring a cup on Monday 07/11!