

Tool Proficiency Project: *Dimension and Fortus 3D Printers*

Instructions for Lab Assistant:

Before You Begin This Proficiency Assessment:

- Watch the training videos for the equipment upon which you will be demonstrating your proficiency.
 - Loading/Unloading Material - <https://www.youtube.com/watch?v=NWnW-toumUE>
 - Catalyst Software - https://www.youtube.com/watch?v=_UeC9_qc54o
 - Insight Software - <https://www.youtube.com/watch?v=jisB9HIgxOc>
 - Insight Time Saving Techniques - <https://www.youtube.com/watch?v=0F212ihtaHI>
 - Repairing bad STL's with Netfabb - <https://www.youtube.com/watch?v=cqrpGn87sxw>
- Read and understand instructions associated with the equipment.
- Understand the 3d printer Job Log

Supplies Required:

<i>Quantity</i>	<i>Item Description</i>
1	1 messed up STL to fix (Porsche file, linked)
1	Your choice of STL to print

YOUR TASKS

- Prepare a CAD file to print, or use a supplied example
- Repair a bad STL
- Prepare a file to print on both the Fortus and Dimension printers
- Print an object of your choice on **one** of the two printers
 - Maximum model material volume of 1 in³
- Remove the support material from your part
- Explain how to replace the print and support material in the printer
- Explain part orientation and layers and what they have to do with finish and strength

Proficiencies to Demonstrate:

Know the file type needed and how to get it

How to repair bad STL files

Load the model

Orient model using a face

Select infill, support options, and layer height

Pack a build plate, including working around previous print jobs

Log your print job

Load a build platform in the printer

Start the print job

Explain how strength varies by direction

Change/load material

Dealing with support material: washing and other removal methods.

Best practices: Reuse of build plates