



Digital Design Graphics Technology
Napa Valley College

Gary Strommen
Program Coordinator
ddgt@napavalley.edu
707-256-7526

DDGT130 – 3D Printing Assignment Description

Guidelines:

- You are allotted 30 cubic inches of material and support combined.
 - This includes material and support for failed prints.
 - Plan on leaving yourself extra material in case of a failed print.
 - You can print one or multiple projects with your allotted material.
- If you print multiple parts at the same time, be aware you will only be allowed to use one color (this is a limitation of the 3D Printer).
 - If you want separate colors, you will need to print your parts individually and it will need to be assembled afterwards.
- Minimum clearance between parts is .5mm
 - Take scaling into consideration
 - Take post processing into consideration (epoxy addition)
- You are allowed to print “solid” or “hollow”.
 - Be aware that “solid” will be stronger but it will use up additional material.
- All designs must be designed by you using the Autodesk Fusion 360 software.
- All files for 3D Printing must be submitted as an STL file format with your name and project title included in the file name.
- Design considerations:
 - Strength – the parts must be strong enough to resist breaking (not too thin anywhere).
 - Support material removal – can the liquid bath penetrate all support areas for proper support removal?
- Your assignment(s) must be submitted for printing and grading by the last day of class.
- For every 3D Printed model, you must submit a digital

Note: Due to the class size and the condensed summer schedule, be aware that not all projects will be printed and returned before the end of the class. If this happens, you can schedule with the instructor on when you can pick up your printed projects.

Note: The color of the plastic and which 3D Printer is used is up to the discretion of the instructor.

You will give a presentation on your 3D Printing assignments to the class. If your project has not been printed yet, you can use the digital model for visual aids. Questions to answer in your presentation:

Project Review Questions:

- Project Description
 - What was your inspiration?
 - How did you define the challenge?
- Idea
 - What approaches did you consider for making your design a reality?
- Prototype
 - What design parameters did you consider?
 - What did you not consider that you should have?
 - How did your design evolve through multiple iterations (if any)?
- Producing final product
 - Did your product require any post-processing?
 - What did you call it?

You will be graded on how well you present the materials. Make sure your presentation is clear and interesting.

You will be graded on the following criteria:

(30% of your final grade will be based on the 3D Printed Assignments)

- Design complexity
 - Designs that are too simple will be marked down.
 - Designs that are too complex may set yourself up for failure.
- Creativity
 - Did you just copy someone else's design online or did you come up with something original?
 - Those students who create a working assembly will receive extra credit.
- Projects / Material Use
 - You will be graded on how well you used your material allotment.
 - Those who print simple, basic projects at large sizes will be marked down.
- Presentation
 - Did you fully describe your project and the questions above?