

Drafting Final Project



The Goal: This project aims to utilize all the skills we've learned in the semester in one project. Students will be given multiple options for projects through which they will be able to show their skills. Regardless of which option is selected, the same level of detail and work will be expected from each. The standards by which each will be graded will also be the same.

The Options:

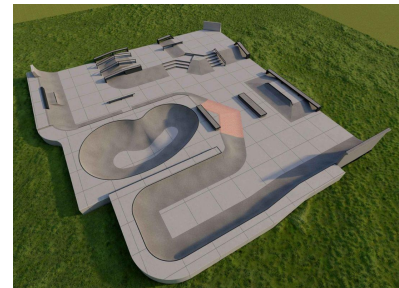
1. Refrigerator/locker magnet

Once completed, this project will be 3D printed for you to take home. The goal is to create a frame for a magnet or magnets that can serve some utility at home or at school. This could be holding pencils, papers, or even clothing. The design should be usable but also decorative. Since an assembly will be required for this project, you must also draw the magnet(s) and at least one other object your magnet interacts with (i.e. fridge, locker, pencils,...).

2. Skatepark

This project involves drawing a concrete skatepark. The park should contain at least one of each of the following features:

- Half-pipe/bowl with coping
- Pyramid/bank
- Hubba
- Stair set
- Kinked handrail
- Flat handrail
- Multiple levels or elevations



3. A multipart object of your choosing

This could be any object made up of a few parts so you could assemble them together. Here are a few examples but don't feel pressured to draw these objects

- Skateboard (wheels, bearings, deck, trucks,...)
- Squat rack (Rack, bench, bars, weights,...)
- Hand tool (Multi-tool with different parts)
- ...

4. A project of your choosing pre approved by Mr. Slagle

This could be a project you are interested in building at home or something related to the projects above. For example, you could make a kids toy that uses magnets to be put together or a playground instead of a skatepark. Really anything is possible if you have a great idea. (see next page)

Phase 1: The Hand-drawing (10 points)

Fill a sheet of paper with a hand drawing or drawings that communicate the overall detail of what you are trying to do in onshape. This serves as a guide to help Mr. Slagle help you if you get stuck. This design should be submitted prior to beginning drawing on the computer. During the hand-drawing process, online research is encouraged.

- Detail Present (4 points)
- Care and precision in drawing (3 points)
- White space used (3 points)

Phase 2: Drawing Part Files (20 points)

Begin drawing the necessary parts for your project. These parts must include at least 3 of the 5 following tools (extrude, revolve, loft, pattern, sweep).

- Correct Dimensions (3 points)
- Creativity (5 points)
- Required Tools (12 points)

Phase 3: The Assembly (5 points)

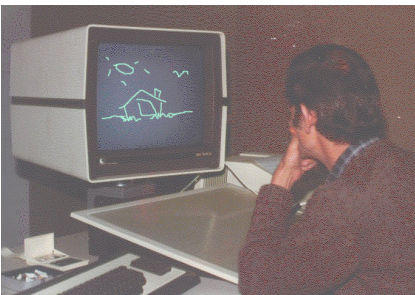
Assemble your parts using the correct mate commands. Make sure each part is its own color.

- Mate commands are present, appropriate, and correct (3 points)
- Parts are colored uniquely (1 point)
- At least one part of assembly is fixed (1 point)

Phase 4: The Digital Drawing (10 points)

Prepare a digital drawing file that includes

- A cover page with the completed assembly and parts labeled (2 points)
- A page for each part (2 points)
- All required dimensions are present (3 points)
- Dimensions are organized and presented clearly (3 points)
- An exploded view (if applicable)



Phase 5: Share your OnShape Document

If you want to receive a grade, share your onshape document with me using the following settings.

