

Fusion360 CAD Unit Project

In this unit, you have become moved from beginner to intermediate CAD operators in Autodesk's Fusion360. We have reviewed several of workspaces: the Design space, Animation space, Drawing space and Render space.

So here's your final project design prompt and rubric:

Design Prompt:

Design an object which utilizes the the variety of tools and workspaces we have explored in Fusion 360.

Necessary Components

Your final product will include:

- 1) A model of your object which utilizes a number of sketch, form, surface and solid tools
- 2) An animation of your model, whether an exploding view or moving joint.
- 3) A technical drawing of your model, with at least 4 views, a table, section views and dimensions. Multiple drawings may be necessary.
- 4) A rendering of your object.

Some suggested design ideas:

1. Create an object that makes sound or music.
2. Design & create one of the [507 Movements](#)
3. Design a tool that can be used for drawing or sketching.
4. Design a vase or container for flower - the more unexpected the better
5. Design both a 3D puzzle, such as [the burr puzzle](#), and its packaging

Rubric

Use the rubric below to judge your projects final score.

Catagory	None 0-2 pts	Basic 3-4pts	Intermediate 5-8pts	Advanced 9-10pts	Mastery 10pts
Design (10 pts)	No attempt made at developing a model which completes the prompt.	Model utilizes basic geometry, such as simple sketches and extrudes, or primitive shapes. Minimum constraints. One or two parts are joined, but only utilizing rigid joints.	Sketch utilizes constraints, patterns, mirrors and more to convey more complex geometry. Multiple parts are included in the assembly. Several joint types are present.	Sketch may utilize advanced tools such as sweep, loft, 3D sketches, forms, and more to create the assembly. Models may include forms, spline curves, surfaces, multiple mechanical joints. Multiple joints and motion links are utilized to convey movement.	Mastery demonstrates advanced techniques in novel environments, showing off techniques not covered in class.
Animate (10 pts)	No attempt.	Exploded model is animated with minimum effort taken.	Exploded model is animated in a way that illuminates the construction of the model	Exploded model is animated in a way that creates visual interest for the viewer - piece by piece, and put back together. Close ups, view changes, might be incorporated.	Mastery demonstrates advanced techniques in novel environments, showing off techniques not covered in class.
Drawing (10 pts)	No attempt.	A drawing is produced that conveys a minimum amount of information. Four views and dimensions.	The drawing utilizes intermediate techniques such as tables and section views to display the appropriate information. The title block is completed.	The drawing conveys a bill of materials, all necessary views to complete each component of the assembly, exploded views and any other necessary information.	Mastery demonstrates advanced techniques in novel environments, showing off techniques not covered in class.
Render (10 pts)	No attempt.	The render contains a	The render utilizes lighting,	The render utilizes	Mastery demonstrates

		minimum number of rendered surfaces, with little detail.	appearances and shifting views to display the object in the appropriate way for a business setting.	advanced techniques, such as decals, subtle lighting changes and novel backgrounds to create powerful visuals in the business setting.	advanced techniques in novel environments, showing off techniques not covered in class.
Workplace Professionalism (10pts)	No attempt or late without communication.	Project is on time.	Project is on-time with communication with client during progress.	Project is completed on schedule and shared with clients and frequent updates are sent via appropriate communication tools.	

Total Points: _____



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