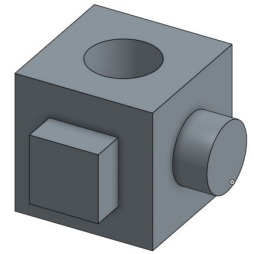


(50 pts) Approx. 3 days

For the second part of our unit, we'll be getting into Autodesk Inventor and learning how computer models can be made. Some of you will have done this in previous engineering courses like *Engineering & Robotics*, others will be very new to Autodesk. In either case, we'll have a pretty easy time getting used to the key tools in Autodesk and in making some simple pieces. Our job here will be to make a first practice piece called the "Sketch Plane Cube" by following a tutorial. After that, you'll model every one of your puzzle cube pieces.

1. **Autodesk Notes** – watch the *Sketch Plane Tutorial* presentation and take some notes on how to use Autodesk. In addition to walking through the creation of the Sketch Plane Cube, this video also does a good job of pointing out all the important tools that we'll use when making things in Autodesk. Take a full page of notes on Autodesk as you go.
2. **Sketch Plane Cube** – Following the tutorial instructions in the *Sketch Plane Tutorial* video, create the Sketch Plane Cube in Autodesk. You can follow the directions pretty much exactly as they're outlined in the video, or if you feel pretty confident, you can try and create the Sketch Plane Cube shown at the right with the following parameters:
 - a. *The main body is a perfect cube with a side length of 2"*
 - b. *One face (shown as the front) has a 1" x 1" square centered on the face and extruded away from the face by 0.5"*
 - c. *Another face (shown here as the right) has a 1" diameter circle centered on the face and extruded away from the face by 0.5"*
 - d. *The last adjustment (shown here as the top) has a 1" diameter circle extruded down into the cube by 0.5"*
3. **Puzzle Cube Models** – With the Sketch Plane Cube all taken care of, you'll now get out your puzzle cube! If you don't have one, talk to Mr. Benshoof to borrow one. You'll then take every single piece (there are probably 4, 5, or 6) and model them in Autodesk. As you do, you want the following to happen:
 - a. **Model EVERY puzzle cube piece in Autodesk as a new "Part"**
 - b. **Save every puzzle cube piece to your jumpdrive as an .ipt file**
 - c. **Try and make every piece a different color (this will make the assembly later much easier)**



Part 2: Tasks	10 points	8-5 points	4-0 points
Autodesk Notes	+ You took a full page of notes on how to use Autodesk + Your notes include specific details about how to use Autodesk	- You did take a full page of notes - Your notes do not address specific tools	- Your notes are missing
First Autodesk Shape Tutorial	+ You followed the tutorial to create the complete "Sketch Plane Cube" part	- You did not finish your "Sketch Plane Cube" - Your Sketch Plane Cube is the wrong shape/size	- You did not create a "Sketch Plane Cube" - Your Sketch Plane Cube is way off-base
	20 points	16-10 points	9-0 points
Puzzle Cubes in Autodesk	+ You modeled each of your puzzle cube pieces + Every puzzle cube piece is saved as a separate .ipt file + All of your puzzle cube pieces are different colors	- You modeled most of your puzzle cube pieces - Your pieces are not separately colored	- You only modeled one or two pieces - You did not save your pieces as .ipt files - You did not save your pieces to your jump drive
	10 points	8-5 points	4-0 points
Take the Unit 4 Quiz!	+ You took the quiz by the due date + Your grade is based on number correct	N/A	- You did not take the quiz by the due date

