ENGR 121     Homework 1

NOTE: Use non-engineering format.

1. Paint the wooden portion of your fishtank system that was fabricated in class 1. Have fun with your paint scheme . . . the way it looks is up to you. Please use a drop cloth (newspaper, old shirt, a few pieces of notebook paper) to avoid getting paint on anything.

2. Turn in a SolidWorks drawing of the fishtank reservoir shown below (you will fabricate this part in class 2). Turn in two screen shots of your drawing, one at an intermediate stage (unassembled) and one of the final part (fully assembled). You may want to draw the pipe segment and the cap as one part, and then draw the barbed fitting as a second part.

3. Turn in your SolidWorks assembly of the wooden fishtank platform fabricated in class 1. Save your hand sketch for homework 3.
Due Class 4 (homework 3):

4. Turn in hand sketches AND SolidWorks drawings of the following components (you will resubmit the final SolidWorks drawings you created for homework 1 and 2).

- the wooden assembly fabricated in class 1
- the conductivity sensor with fittings (you don’t have to draw the wires, terminals or tubing)
- the fishtank reservoir with three fittings (inlet, outlet, overflow)
- the pump (it’s OK to use your pump assembly from ENGR 120)
- the 3-way valve (rough detail of shape is good enough, but use correct measurements)
- the LCD screen (rough detail of shape is good enough, but use correct measurements)
- the Arduino / aluminum plate (rough detail of shape is good enough, but use correct measurements)

Due Class 4 (homework 3):

5. Turn in your SolidWorks assembly of the fishtank system using all of the components listed in problem 5.

Due Class 4 (homework 3):

6. Using the Internet and any other sources, learn about the book "The World is Flat" by Thomas Friedman. Write a paragraph in your own words describing what you have learned; be thinking about the impact that the ideas presented in the book might have on your career. **We expect you to spend between 15 minutes and 30 minutes looking into this issue to provide background for an in-class discussion.**