Week 1 - the basics

PREP WORK

1. Pre-print enough syllabi for students
2. Place PDF of syllabus on mccnet\fablab folder
3. Acquire enough sketchbooks for each student to use
4. Gather samples of objects created with equipment in the lab
5. Gather personal sketchbooks for demonstration
6. Gather enough material for laser cutter activity
7. Ensure that laser cutter is operational and ready for use
8. Locate and/or design template for laser cutter activity
9. Ensure that you can log in to instructor computer and get projector working

Outline

1. Syllabus review
2. Curiosity Handbook introduction and discussion
3. Safety material presentation
4. Lab tour with safety review
5. Safety test
6. Show-and-tell samples
7. Laser-cut keychain activity

Syllabus review (10-20 minutes)

1. Hand out syllabi
2. Required materials
3. Assignments
4. Class structure
5. Tentative schedule

Curiosity Handbook introduction and discussion (10-20 minutes)

Your sketchbook is meant to be an unfiltered repository for things you think are awesome or worth remembering or researching more.

You will be expected to use your sketchbook for 4 major purposes, some of which will be used for grading:

1. Keeping track of terms and definitions
2. Capturing ideas for projects as they come to you without judgement
3. Taking notes about how to use equipment or materials in a way that makes sense to you.
4. Documenting successes and failures as you work so you can track what you learn

You can achieve these purposes using any combination of the following (or whatever else you can think of):

- Rough pencil/pen sketches
- Journal-style writing
- Post-Its
- Taping in photos or clippings
- Gluing or taping found objects or material samples

It's far better to have too much documentation than too little!

✪ *Show personal Field Notes, Maker's Notebook, legal pads and sketchbooks*

You are also encouraged to document and share things you do in and out of class online through a blog or social media, but this is not required for grading.

In this class there will be discussions of techniques and topics that come up that are are really cool, but may be too complicated to dedicate class time to. This does not mean that you can't or shouldn't be excited and do a little research on your own! Write down anything that sounds interesting and feel free to chat with me when there is free time if you want to explore any particular topic more in-depth!

ASSIGNMENT: Throughout the class tonight, write down terms that you haven't heard before or seem important. Before next week's class research these terms to find out definitions and any interesting online resources that explain them well. Be ready to share what you find at the beginning of the next class.

Safety presentation (30 minutes)

Pass class to Jamie

Lab tour and safety review (30 minutes)

Walk through Lab and explain dangers associated with each machine.
Ask Jamie for additional information as we go.

Safety test (30 minutes)

Pass class back to Jamie for test

Show-and-tell projects (30 minutes)

Before class, prepare and gather projects that demonstrate various capabilities and uses for each machine in the lab

- FDM 3D printers - Thingiverse prints, functional prints, simulations and personal work
- Full-color 3D printer - color and non-color, with and without fixative
- Laser cutter - cut vs. engrave, raster engraving, material variety
- Vinyl cutter - anything
- CNC mill - wood and metal examples
- Electronics - personal electronics projects, on-hand kits and basic projects

Laser-cut keychain activity (remaining time: ~1+ hours)

Before having students use their own computers, quickly introduce project on projector:

1. Demonstrate examples of final result
2. Show and briefly explain design file in Corel Draw, connecting important features on the screen to the physical object (size, line weights, colors).

Have each student customize the keychain design from a template:

1. Log on to a computer
2. Access the class network drive
3. Copy the **keychain-template.cdf** file to your desktop
4. Open the template file (should open in Corel Draw automatically).
5. Provide time for students to experiment with design in Corel, asking questions as they come up.

As each student finishes their design, correct any problems and guide them through using the laser cutter.

Split duties with Jamie - let her fix design files, while Jason facilitates laser usage.

Cut design on the laser cutter

1. Copy your design file to a folder of your full name under the “Individual Folders” folder on the “Laser Projects” network location.
2. Go to laser cutter when available and work with instructor to cut your design.