



# FAB LAB COURSE TRACKS



## □ **\*General Orientation for the Melrose Center**

This orientation is your key to accessing the creative and collaborative spaces in the Melrose Center. Get an overview of the Photography Studio, Video Production Studio, Audio Production Studio, FabLab and Simulation Lab. Explore upcoming classes and workshops and learn about the best practices to maximize your experience.

## **3D DESIGN AND PRINTING**

### □ **3D Design and Printing with Moment of Inspiration Level 1**

Create basic shapes and objects with Moments of Inspiration, a 3D design software. Develop 3D objects using common 3D design tools. Learn the skills you need to start developing your own prototypes.

### □ **3D Design and Printing with Moment of Inspiration Level 2**

Up your 3D design skills with Moments of Inspiration, a 3D design software. Develop 3D objects using loft, revolve and array tools. Learn the skills you need to start developing your own prototypes.

### □ **3D Design in Blender Level 1**

Learn to use professional and always free design software, Blender, to create 3D models. Learn the basics while building a toy train model. This class is taught by the Melrose Center Fab Lab.

### □ **3D Design in Blender Level 2**

Learn to use professional and always free design software, Blender, to create 3D models. Add details to your toy train model by editing your mesh and using modifiers with the Melrose Center Fab Lab.

### □ **\*3D Printer Orientation**

Learn 3D printing terminologies and concepts. Import a 3D object files and set up printing parameters on the Flashforge printers.

### □ **\*Access Assessment - FabLab Machine**

Prior to booking a 3D Printer users are required to successfully complete a machine specific assessment. Successful completion of the General Orientation for the Melrose Center, the 3D Printer Orientation and this session grants access to Fab Lab 3D printers during Open Lab hours.

## **SILHOUETTE CAMEO 4**

### □ **Adobe Illustrator Level 1**

Turn scanned drawings into sleek vector graphics. Apply several design techniques and use common editing tools to trace and color artwork as well as manage objects and layers.

### □ **\*Silhouette Cameo Orientation**

Learn to create a cut file with the Silhouette Studio software, set up a test file and cut.

### □ **\*Access Assessment - FabLab Machine**

Prior to booking the Silhouette Cameo 4 users are required to successfully complete a machine specific assessment. Successful completion of the General Orientation for the Melrose Center, the Silhouette Cameo Orientation and this session grants access to a Silhouette Cameo cutter during Open Lab hours.

*\*This class is required to gain access to all FabLab machines.*



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## LASER CUTTING

Create Designs for the Glowforge Laser Cutter. Learn how to use VCarve Pro to easily create designs that you can cut on the Glowforge laser cutter.

### □ **Design with Inkscape**

Inkscape is an open source vector graphics editor for GNU/Linux, Windows and macOS. Make your Inkscape creation by gaining access to our 3D printers, Silhouette Cameo, or laser cutter machines.

### □ **\*Orion Laser Cutter Orientation**

Learn laser cutting and engraving concepts with the Orion Motor Tech 55w Laser Engraver and Cutter. Import vector files into laser engraving operations software. Successful completion of the General Orientation for the Melrose Center and this session grants access to the Laser Cutter during Open Lab hours.

### □ **\*Glowforge Orientation**

Available in February 2023! Learn laser cutting and printing concepts with the Glowforge Pro 3D Laser Printer.

### □ **\*Access Assessment - FabLab Machine**

Prior to booking the Laser Cutter users are required to successfully complete a machine specific assessment. Successful completion of the General Orientation for the Melrose Center, the Laser Cutter Orientation and this session grants access to the Laser Cutter during Open Lab hours.

## FOAMSMITHING & PROP MAKING

### □ **Foamsmithing Props & Armor**

Create props and armor made out of crafting foam! In this meetup you will discover the tools and materials needed to start your foamsmithing journey in different budget ranges.

### □ **Foamsmithing Workshop**

Foamsmithing is the art of creating props and costumes using different types of foam. You will get hands-on experience using Pepakura, Silhouette Cameo, the Dremel tool among other tools of the trade.

## PROGRAMMING ELECTRONICS

### □ **Coding with Electronics Level 1**

Experience the potential of this inexpensive and accessible tool. Learn how to program an Arduino to customize control of electronic components, such as LEDs, sensors, and buttons.

### □ **Coding with Electronics Level 2**

Make and program a dazzling multicolored ambient light display. Learn how to program an Arduino to fade LEDs and control RGB lighting.

## ELECTRONIC ENGINEERING

### □ **Introduction to Electronic Engineering Level 1**

Build a working circuit using common electronic components and a power source.

### □ **Introduction to Electronic Engineering Level 2**

Build circuits using integrated circuits, power transistors and relays. Create timers for various electronic applications.

### □ **Introduction to Electronic Engineering Level 3**

Build a working circuit using relays, comparator integrated circuits and a power source. Learn to read common schematic diagrams and universal symbols.

### □ **Introduction to Soldering Basics**

Build a simple circuit with a soldering iron and components. Learn to safely use a soldering iron correctly to join components and wires.

*\*This class is required to gain access to all FabLab machines.*