

MAKING STUDIO

PDG-5080-A

School of Visual Arts
MFA Products of Design
Fall 2022



Class Times / Description

Class Times: 09/07/22-12/14/22, Wed 10:00AM-12:50PM

Course Description

Making is at the heart of product design. Serving as an introduction to the re-emerging fields of making, hacking, modding and do-it-yourself (DIY), this course will delve into techniques, tools and resources for expanding what we can make ourselves. We will combine traditional and novel techniques and materials in electronics, computation, crafts, fabrication, entrepreneurship and more, moving beyond ideation and concepting to create fully functional products of design. Students will have opportunities for online exposure and access to a network of innovators, hackers, hobbyists and crafters producing DIY projects. Hands-on skill workshops in electronics and crafts are complemented with field trips, discussions and critiques.

Course Objectives

Makers today have all the resources available to them to fully develop a product idea into a small business. Methods of fabrication like laser cutting, CNC milling, and 3D printing— once only available to large corporations— have recently become easily accessible for just about anyone. Likewise craft techniques like sewing and knitting can be simple to learn and open up a wide new ability to express creative ideas. This course will offer an introduction to many kinds of making, including electronics/physical computing with Arduino, and will give the student the confidence to move well beyond ideation and concepts to creating functional products of design.

Faculty Information

Instructor: Becky Stern

Pronouns: she/her

Email: rstern4@sva.edu

Course Outcomes

After completing this course, students will be able to:

- Experience new methods of making
 - Develop knowledge and hands-on skills in basic electronics and physical computing
 - Develop hands-on skills in student-selected crafts: sewing, soft circuits, knitting, jewelry, laser cutting, 3D printing, etc.
 - Create portfolio-building products and projects
 - Engage with a huge online maker community through sharing projects
 - Document projects through photography, video, and writing
 - Experience publishing projects as how-to manuals online
 - Learn to self-promote online
 - Cultivate resources and confidence toward creating a business around making
-

Course Requirements

Criteria for Evaluation

Participation and communication: Your participation in class will be evaluated not just in discussions and group project work, but also online through the class blog and other sharing outlets including photo, video, tutorial, and social media sites. Plentiful, frequent, high-quality, and well-organized contributions to class and the web are essential.

Individual and group assignments: You will be evaluated on your production of four projects over the course of the semester. Your projects will be evaluated based on cultural merit (benefit/relevance to target community), writing, photography, videography, and documentation online.

Project Dossiers

In addition to other requirements for the course, a passing grade will require the submission of a project dossier 1 week after the final class concludes. You will not receive a passing grade unless you provide the dossier on time. Please consult with your instructor and the class Google calendar for dossier due dates. Project dossier instructions will be sent from our department staff.

Instructor Addendum

Schedule office hours with me anytime you want to chat— I can meet with you over Zoom. Please let me know as far in advance as possible if you must miss a class or will be late (by email or text message if necessary).

Required Materials

Airtable list of supplies

For our Arduino workshops, the department has prepurchased your electronics components.

<https://airtable.com/shrC2WZR680bqJ8UE>

Getting Started with Arduino

feel free to purchase in your native language, if available

<https://amzn.to/2MyxxBe>

ISBN: 978-1449363338

Course Outline

Schedule subject to change. Unless stated otherwise, assignments are due via Canvas and/or class blog post 14 hours before class (8pm ET).

Week 1 Sept 7 Intros, syllabus & class blog overview, Project 1 assigned (Teardown)

Week 2 Sept 14 Project 1 discussion, Arduino introduction

Week 3 Sept 21 Sewing/soldering introduction, introduction to Project 2 (Plush night light)

Week 4 Sept 28 In progress critique/ 1:1 meetings

Week 5 Oct 5 Project 2 presentations, introduction of Project 3 (Halloween costume)

Week 6 Oct 12 Arduino workshop

Week 7 Oct 19 In class work time with 1:1 meetings

Week 8 Oct 26 In progress critique/troubleshooting

Oct 31 Halloween parade (time TBA)

Week 9 Nov 2 Project 2 presentations

Week 10 Nov 9 Video documentation watch-a-thon, Final Project discussion

Week 11 Nov 16 Arduino workshop, work time/office hours

Week 12 Nov 23 Peer-supported writing workshop/1:1 meetings

Week 13 Nov 30 Final Project in-progress critiques

Week 14 Dec 7 Final Project presentations

Week 15 Dec 14 Improvements and reflections - last class

1 week later (tent. Dec 21) Final dossiers due

Policies

Academic Integrity

Academic dishonesty, including plagiarism, will not be tolerated. Students found to have committed an act of academic dishonesty will fail the assignment for which an infraction is suspected and substantiated. More serious violations will be handled through the process enumerated in the [SVA Handbook](#). Put simply, make sure your work is your own.

Students with Disabilities

SVA is committed to providing students with access to their academic programs and courses. If you are a student with a disability and require accommodations, you must register with Disability Resources by visiting sva.edu/disabilityresources and completing an online accommodation request.

To be eligible for accommodations in this course, students must provide the instructor with a letter of accommodation from Disability Resources. For questions or assistance, please call Disability Resources at 212-592-2396, or visit the office: 340 East 24th Street, New York, NY 10010, or email disabilityservices@sva.edu

SVA Attendance Policy

The *SVA Handbook* says: The School of Visual Arts is a professional art college dedicated to teaching and learning. Attendance is required in all courses, and the individual faculty member determines the number of acceptable absences, if any. However, students who are marked absent for one-third of the sessions for a given course will be administratively withdrawn from the course with a grade of W.

Pronouns and Chosen Names

Students may indicate their pronouns and preferred/chosen first name through MyServices; this information will then appear on class rosters (go to: <https://myservices.sva.edu/Student/UserProfile> and select "Edit Personal Identity").

Please let your instructor know the preferred name and pronouns by which you would like to be referred, if that information does not already appear on the roster. A student's chosen name and pronouns should be respected at all times.

Required Reading

The course Arduino exercises will loosely follow the [Instructables Arduino Class](#) and [Internet of Things Class](#).

The course book is [Getting Started with Arduino](#) (available in Chinese as well as some other languages). Use it to look up Arduino terms and questions, and read the background chapters at your own pace— you will not be explicitly assigned readings from the book, yet are expected to read the entire book during the course.

Students are encouraged to use an RSS reader such as [NewsBlur](#) to research DIY and maker-related blogs.

Canvas will include links to all required readings. Class will include asynchronous elements where possible, such as assignments to watch videos, read specific texts, and contribute to feedback opportunities.

Materials and Supplies

You will need access to a digital still and video camera for this course (your phone will likely suffice). Access to lighting equipment, microphone, and tripod are highly recommended. The computer(s) you use for this course must be capable of internet access, photo manipulation, and video editing. If your laptop only has USB C ports, you may need a C-to-A cable or adapter to work with Arduino. Use of platform-agnostic and open source technologies are highly encouraged. Materials and supplies will vary based on each student or team project's needs.

To get started, there are some tools and materials every student should have/have access to including a basic Arduino kit, soldering supplies, and sewing supplies. For our Arduino workshops, the department has prepurchased your electronics components. Find the list, with suggested suppliers, on airtable: <https://airtable.com/shrC2WZR680bqJ8UE>

Some resources for further shopping/downloads/services:

Supplies/materials

[Adafruit.com](https://adafruit.com) - NYC based components supplier (ship via UPS ground for fastest delivery, or use same-day delivery before 11am)

[Sparkfun.com](https://sparkfun.com) - Colorado based components supplier

lessEMF.com - upstate NY - interesting conductive materials such as fabrics and paints

[Digikey.com](https://digkey.com) - Minnesota based components supplier

[Jameco.com](https://jameco.com) - supplier of new and surplus electronics components

[Mcmaster.com](https://mcmaster.com) - utility hardware supplier

[Polytek.com](https://polytek.com) - moldmaking and casting supplier

Communities

[Instructables.com](https://instructables.com) - general making community owned by Autodesk

[Hackster.io](https://hackster.io) - electronics community owned by Avnet

[Hackaday.io](https://hackaday.io) - electronics community owned by SupplyFrame

Services

[Thingiverse.com](https://www.thingiverse.com) - 3D printing files and other CNC files (laser cutter, etc.) sharing site

[Thangs.com](https://www.thangs.com) - 3D file search engine (also searches Thingiverse)

[SendCutSend.com](https://www.sendcutsend.com) - on demand CNC & laser cutting service

[Shapeways.com](https://www.shapeways.com) - on demand 3D printing service

[Ponoko.com](https://www.ponoko.com) - on demand laser cutting service

Software

[Arduino.cc](https://www.arduino.cc) - electronics prototyping ecosystem

[Tinkercad.com](https://www.tinkercad.com) - free browser-based 3D modeling and circuit prototyping software

[Autodesk Fusion 360](https://www.autodesk.com/products/fusion-360) - free for students - 3D design software

[Gimp.org](https://www.gimp.org) - free and open source photo editing software

[Inkscape.org](https://www.inkscape.org) - free and open source vector drawing software

[Openscad.org](https://www.openscad.org) - free and open source programmatic 3D modeling software

[Ultimaker Cura](https://www.ultimaker.com/ Cura) - free 3D slicer/printer file prep software
