

MAKING STUDIO

PDG-5080-A

School of Visual Arts
MFA Products of Design
Fall 2023



Class Times / Description

Class Times: 09/06/23-12/13/23, 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

Instructor: Becky Stern

Email: rstern4@sva.edu

Course Outcomes

After completing this course, students will be able to:

- Develop knowledge and hands-on skills in basic electronics and physical computing
- Experience new methods of making
- Develop hands-on skills in student-selected crafts: sewing, soft circuits, knitting, jewelry, laser cutting, 3D printing, etc.
- Develop knowledge and hands-on skills in basic electronics and physical computing
- Create portfolio-building products and projects
- Develop hands-on skills in student-selected crafts: sewing, soft circuits, knitting, jewelry, laser cutting, 3D printing, etc.
- Document projects through photography, video, and writing
- 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

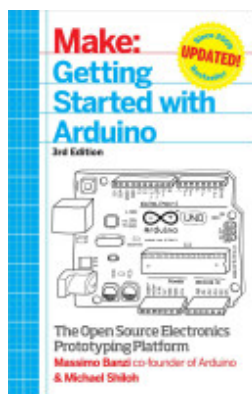
Participation and communication: Your participation in class will be evaluated not just in discussions and group project work, but also online through the class blog and other sharing outlets including photo, video, tutorial, and social media sites. Plentiful, frequent, high-quality, and well-organized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

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



Make: Getting Started with Arduino

ISBN: 9781449363338

Authors: Massimo Banzi, Michael Shiloh

Publisher: Maker Media

Publication Date: 2014-12-28

Airtable list of supplies

For our Arduino workshops, the department has prepurchased your electronics components. These and other recommended tools and supplies are in this list:

<https://airtable.com/appQ18bPxmV966Fdx/shr74t2BP0YmOdRVU>

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 6 Intros, syllabus & class blog overview, Project 1 assigned (Teardown)

Week 2 Sept 13 Project 1 discussion, sewing/soldering introduction, introduction to Project 2 (Plush night light)

Week 3 Sept 20 Arduino introduction

Week 4 Sept 27 In progress critique/ 1:1 meetings

Week 5 Oct 4 Project 2 presentations, introduction of Project 3 (Halloween costume)

Week 6 Oct 11 Arduino workshop

Week 7 Oct 18 In class work time with 1:1 meetings

Week 8 Oct 25 In progress critique/troubleshooting

Oct 31 Halloween parade (5pm)

Week 9 Nov 1 Project 2 presentations

Week 10 Nov 8 Video documentation watch-a-thon, Final Project discussion

Week 11 Nov 15 Arduino workshop, work time/office hours

Week 12 Nov 22 Peer-supported writing workshop/1:1 meetings

Week 13 Nov 29 Final Project in-progress critiques

Week 14 Dec 6 Final Project presentations

Week 15 Dec 13 Improvements and reflections - last class

1 week later (tent. Dec 20) Grades 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 ensuring access to educational materials and instruction for students with disabilities. To receive disability accommodations for this course, students must register with SVA's Disability Resources office. Once the student is approved for accommodations, the instructor will be notified. Instructors do not have to provide accommodations unless they have received notification from Disability Resources. All instructors are required to adhere to the school's policies regarding accommodations for students with disabilities. Students who have a need for academic accommodations, or suspect they may have a disability, should contact Disability Resources at 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.

MFA Products of Design AI Policy

SVA Products of Design acknowledges that the development of AI and generative AI presents both opportunities and challenges for the design industry and for design education. As a department, our policy on the use of any artificial intelligence is grounded in transparency: We believe that the use of these tools should be openly acknowledged in the creation of any design project, writing, or research. We understand that experimenting with, and gaining a familiarity of, AI tools is part of a student's education and growth, and are likely to be part of their process—particularly as these tools become further embedded in the foundational design platforms themselves. However, we discourage the use of generative AI as a production method for “final outputs” in the form of presentation renderings, final writing/essays/reports, or code.

Faculty members may choose to set more stringent standards, guidelines, or requirements regarding the use of AI in their individual courses, including prohibiting its use altogether. This policy will be updated as technologies and methodologies evolve.

For citation guidance, please refer to the [MLA guidelines](#).

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 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/appQ18bPxmV966Fdx/shr74t2BP0YmOdRVU>

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

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

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

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

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

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

Software

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

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

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

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