IA1 - CREATIVE CODING

Time: Wednesday, 4 - 10

Location: Dolphin, 240

Class Blog: amandaagricola.com/17/IA1

I will post everything that we are covering in class at the beginning of our class time. At the bottom of each day's posting will be your homework assignments due for the following class (unless otherwise stated). This will be an archive for you to return to as needed.

INSTRUCTOR

Instructor: Amanda Agricola

Office: No Office, e-mail for help or to schedule a place to meet.

Office Hours: Tues./ Thurs. 12-2 pm

E-mail: aagricola@mica.edu

*If for some reason I do not respond in 2-3 days, e-mail again bc there is small a chance that your e-mail slipped past me unnoticed.

COURSE GOALS

The goal of this course is to become familiar with tools and processes used in the production of interactive digital art and design. Through examples and discussion, students will gain an understanding of the context in which their own interactive projects exist.

COURSE DESCRIPTION

An introduction to the concepts and practices of IDA, integrating new media art, games, and systems thinking. Students will be introduced to the relevant technologies, histories, and materials of integrated digital art making. Students will create several projects over the semester, as well as developing a context for their work via lectures, presentations, & critiques.

LEARNING OUTCOMES

By the end of this course, you will...

- Demonstrate an understanding of basic programming concepts.
- Be able to identify the practical or technical limits of the code as an interactive component of your work.
- Be capable of writing and interpreting programs with P5.JS, Processing and Arduino which are either responsive or interactive in nature.
- Have developed a core vocabulary which will enable you to seek help or participate in Processing, P5.JS or Arduino-related discussion online.

Aug 30	Introductions, Syllabus Review, Intro, Primitive Shapes and Colors - Partner Portraits Hw: Finish Portrait
Sep 6	Motion, Variables, Conditionals HW: Drawing Machine / Master Copy, Reading
13	Conditionals, Key Controls, Terminal HW: Non-linear Story Project
20	Conditionals & Functions HW: Finish Non-linear Story
27	Mini Critique // Visiting Artist HW: No Homework
Oct 4	While loops, For loops, Functions HW: Pattern Design
11	Objects, Arrays, Libraries HW: Create a Repeat Pattern. Submit a Project Proposal.
18	Work Day HW: Finish Projects, submit to me the full project folder
25	CRITIQUE
Nov 1	Intro to Electronics, Paper Circuits, Arduino HW: 1.Pushbutton —> Screen Change 2. Screen Change —> LED
8	Analog Input and Output, Sensors HW: 1. Input —> Screen Change; 2. Screen —> Output
15	NO CLASS // THANKSGIVING BREAK
22	
29	Soldering & Relays HW: Partner Relay Assignment, Project Proposal
Dec 6	Collaborative Project Work Day
13	Critique
20	

Materials All Semester

- Computer with an Editor, Arduino, P5.JS.
- External hard drive or cloud-based file backup
- (Dropbox, Google Drive, Github, BitBucket, etc.)
- Prototyping supplies (sketchbook & writing utensils)
- Budget $30-$60 for materials to use in projects

2nd Half of Semester

- Arduino UNO or Leonardo & matching USB cable (kits are $25-$75 online)
- Small breadboard (>= 400 points)
- Small box or storage container with dividers (like a tackle, tool box, or caboodle)
- Choice materials for projects (plan for $10-20 material costs for each of the three projects)

Print Resources

- Form & Code by Casey Reas, Chandler McWilliams, LUST (*required reading)
- Learning Processing by Daniel Shiffman (also online!)
- The Nature of Code by Daniel Shiffman
- Processing: A Programming Handbook for Visual
- Designers and Artists by Casey Reas & Ben Fry

Online Resources

- Official Processing reference & examples: http://processing.org/reference/
- P5.JS official website: https://p5js.org/
- For Your Processing: http://fyprocessing.tumblr.com
- CreativeApplications: http://www.creativeapplications.net
- Prosthetic Knowledge: http://prostheticknowledge.tumblr.com
- OpenProcessing: http://www.openprocessing.org/
- D Fab Lab Website: http://staff.mica.edu/rmckibbin/index.html
- Lynda, Treehouse, or any tutorials online

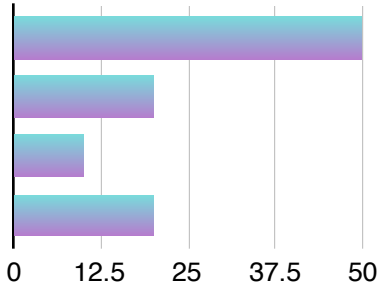
GRADES

Assignments: 50 %

Projects: 20%

Documentation: 10%

Attendance & Participation: 20%



PROJECT EVALUATION

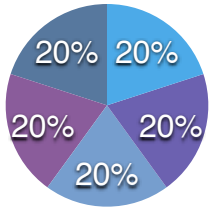
20% **Fulfills the assignment**

20% **Thoughtful presentation**

20% **Demonstrates technical ability**

20% **Conceptual thoughtfulness**

20% **Process and problem solving**



DEADLINES

All projects and homework are to be completed by the start of class on the assigned due date. You will put your project in the appropriate file format in your google drive folder.Unfinished work will not be discussed in class, however, once completed, documentation of late work can be submitted directly to me with a penalty of a letter grade per week. Mid-term is the cut off for submitting late work for the first half and Dec. 13 is the cut off for the second half of the semester.

ATTENDANCE POLICY

0-1	2...	3...
GREAT	CONCERN	UGH
	LOWER GRADE	FAIL

15 minutes late = 1/2 Absence

Leaving over 15 minutes early = 1/2 Absence

If you miss a class you are still responsible for all of the material covered as well as any assigned homework. BE SURE TO CHECK OUR BLOG FOR WHAT YOU MISSED!!!

GOOGLE DRIVE FOLDER

Documentation (at least 5 images or 1-5 minute video) of each assignment and project should be put in your respective google drive folder for full credit.

PROJECTS

There will be two major projects which are intended to give you an opportunity to further explore some of the concepts and materials we learned in a more personally exciting or interesting way to you. The second project should be done in pairs and gives you an opportunity to work with another person towards an end goal. This is your opportunity to demonstrate your handling of the skills learned in class. You will be responsible for independently coming up with and proposing a project, executing, bringing the materials required on work days, setting up your project on the day of the critique, and submitting your edited documentation to your folder (in group projects, each individual submits documentation; it can be the same documentation if it is jointly made).

Participation

As a citizen of the classroom, you are expected to actively participate in class exercises, discussions, and critiques. I keep track of participation and it does affect your grade. In addition, this class is intended to function as a peer learning environment. I encourage you to support and talk to one another during class, particularly if you are experiencing any difficulty.

Collaboration

Collaboration on projects is welcomed and in the final project it is required! However, each team member must carry their own weight in the development and documentation of a project. Afterwards, each collaborator will fill out a brief Peer Review form, which will allow you to discretely provide feedback on your collaborators. Grades will be given individually, and this feedback will be taken into account when factoring grades.

Help!

We'll be covering a lot of material this semester which may be completely new to you. Please keep in mind that acquiring any new skill can be a slow and difficult process. Whenever you think you need help outside of class, please let me know as soon as possible and we can schedule a time to meet, or if you provide me with enough details I can often assist through e-mail...

INCLUDE:

- All necessary files
- Detailed explanation of what you are trying to do
- Don't forget to consult your peers and the Internet when you run into problems as well!
- Please start your homework ahead of time so that any questions can be directed to me at least 48 hours before class.
- As much as I'd like to assist you, requests on the night before may go unanswered. This will not be an acceptable excuse for missing a deadline.

Interactive Arts Tentative Calendar

- Sept. 23rd : Jill Murray, one of the writers behind the Assassin's Creed game series, will be running a Narrative Design Workshop
- Sept 30th : Fall Arcade, an event showing off some of our students' best games from last semester will be back for another round
- Oct 4th : Our very own Game Designer in Residence, Lishan Az, will be giving a talk on her work
- Oct 25th : Katie Rose Pipkin, a generative artist and author of poetic bots, will be giving a talk and meeting with students
- Nov 4th : Loco Local 4, our rowdy little local multiplayer game night will be back for its 4th year!
- Nov 13th : Kunal Gupta (cofounder of Babycastles, an experimental art & games exhibition space in NYC) will be giving a talk and meeting with students
- TBD : Someone from Eyebeam will either be coming down or doing an online visit (working out scheduling now)

RESIDENT ENGINEER WORKSHOPS

Saturdays, from 3 to 5pm, with 5 to 6pm available for free play with the materials and for consultation on how to implement ideas.

Week 4, Sept 23: Electronics: Control and Power.
Week 5, Sept 27 (Unravel) & 30: Arduino: Control and Automation.
Week 6, Oct 7: LED and Neopixel Extravaganza.

4. Introduction to Electronics:
Control and Power:
Circuits, Passives, Transistors
Strategies for making your circuits work reliably

5. Introduction to Arduino
Control and Automation:
Getting control of your Arduino
Controlling motion: servo motor
Reading reality: a simple sensor
Automate a system:
sense reality, consider what to do, act
input, processing, output

6. LED and Neopixel Extravaganza
Ooh! Pretty Colors!
Ooh! Flashing Patterns!
Seriously, how much voltage?
Even more seriously, how much current?
Shopping for LED lighting components.
Controlling high power LEDs

A Word from Our Sponsors:

Americans with Disabilities Act

Any student who may need an accommodation based on the potential impact of a disability should contact the Learning Resource Center at 410-225- 2416, in Bunting 458, to establish eligibility and coordinate reasonable accommodations.

Environmental Health and Safety (EHS): Students are responsible to follow health and safety guidelines relevant to their individual activities, processes, and to review MICA's Emergency Action Plan and attend EHS training. Students are required to purchase personal protection equipment appropriate for their major or class. Those students who do not have the proper personal protection equipment will not be permitted to attend class until safe measures and personal protection are in place.

Plagiarism

Each discipline within the arts has specific and appropriate means for students to cite or acknowledge sources and the ideas and material of others used in their own work. Students have the responsibility to become familiar with such processes and to carefully follow their use in developing original work.

Policy

MICA will not tolerate plagiarism, which is defined as claiming authorship of, or using someone else's ideas or work without

proper acknowledgement. Without proper attribution, a student may NOT replicate another's work, paraphrase another's

ideas, or appropriate images in a manner that violates the specific rules against plagiarism in the student's department. In

addition, students may not submit the same work for credit in more than one course without the explicit approval of all of the instructors of the courses involved.

Consequences

When an instructor has evidence that a student has plagiarized work submitted for course credit, the instructor will confront the student and impose penalties that may include failing the course. In the case of a serious violation or repeated infractions from the same student, the instructor will report the infractions to the department chair or program director. Depending on the circumstances of the case, the department chair or program director may then report the student to the appropriate dean or provost, who may choose to impose further penalties, including expulsion.

Appeal Process

Students who are penalized by an instructor or department for committing plagiarism have the right to appeal the charge and penalties that ensue. Within three weeks of institutional action, the student must submit a letter of appeal to the department chairperson or program director, or relevant dean or provost related to the course for which actions were taken. The academic officer will assign three members of the relevant department/division to serve on a review panel. The panel will meet with the student and the instructor of record and will review all relevant and available materials. The panel will determine whether or not to confirm the charge and penalties. The findings of the panel are final. The panel will notify the instructor, the chairperson, division, the student, and the Office of Academic Affairs of their findings and any recommendations for change in penalties.

Title IX Notification

Maryland Institute College of Art seeks to provide an educational environment based on mutual respect that is free from discrimination and harassment. If you have encountered sexual harassment/misconduct/assault, please know that there are multiple ways to report it and you are encouraged to do so (www.mica.edu/equal_opportunity). Additionally, in order to meet our commitments to equity and to comply with Title IX of the Education Amendments of 1972 and guidance from the Office for Civil Rights, faculty and staff members are required to report disclosures of sexual violence made to them by students, except when prior notice regarding a specific classroom assignment or discussion is provided. If you require academic accommodations due to an incident involving sexual harassment or discrimination, please contact Student Affairs at 410.225.2422 or Human Resources at 410.225.2363.

Students with Extended Illness or Cause for Legitimate Absence

In the case of extended illness or other absences that may keep the student from attending a class for more than three meetings, undergraduate students must contact the Student Development Specialist in the Division of Student Affairs. The Student Development Specialist will then work with the student to determine the cause and appropriateness of the absences and subsequently notify instructors as necessary. Graduate students must contact the instructor, program director, and the Office of Graduate Studies. Students in art education or professional studies programs must contact the Dean for the Center for Art Education or the Associate Dean for Open Studies, respectively. The appropriate administrator will facilitate a conversation with relevant faculty to determine whether the student can achieve satisfactory academic progress, which is ultimately at the sole discretion of the faculty member.