The current version of this document is available at https://github.com/abachman/intermedia-studio under `syllabus.md`

Interactive Arts 3 - Intermedia Studio

department	Interactive Arts
course	340.01 IA3: Intermedia Studio
prerequisite	Any Interactive Arts course, or permission of instructor
schedule	Fall 2018, Tuesday 9am - 3pm
website	https://github.com/abachman/intermedia-studio
survey	link

Instructor

name	Adam Bachman
pronouns	he / him
email	adam.bachman@gmail.com
links	github, twitter, personal
office hours	Fridays, 2 - 4pm at OpenWorks. Able to meet on campus by appointment.

Description

From the online course list:

> *Individual and collective projects integrating person-to-person, person-to-object and medium-to medium-interactions will be studied and created. Playful, Political, Experimental and Hybrid interactive forms and media will be discussed and explored. Each student will make, present, and document three*

projects throughout the semester in the media of their choosing. Historical, critical and technical content will be provided via lecture, demo, research and critique.

Specifically:

The goal of this course is to invite students to explore and develop their studio practice in the context of multi-platform interactive technologies spanning software applications, connected objects, smart devices, and physical computing with a specific focus on the Internet of Things.

Through the introduction of technical concepts and creative software and hardware platforms, we will be building complete projects and inventing new technologies to explore connection, detection, measurement, interaction, security, movement, light, sound, and control across physical and virtual boundaries.

Through the use of small and frequent projects in addition to several larger works, we will have more opportunities to play, fail, learn, and grow in both understanding and ability. We do not understand these tools merely by hearing stories about them, we understand them by using them. Most in-class time will be spent designing, building, and fixing projects.

Goals / Standards / Expectations

By the end of this course, students will be able to...

- Complete functional interactive art works composing of original hardware and software components - **make stuff**
- Demonstrate the rapid prototyping of new ideas in code and in hardware - **sketch ability**
- Demonstrate the practice of creating new work based on existing projects - **remixing / extending**
- Demonstrate the ability to communicate with collaborators on projects outside the abilities of a single individual - **we go further together**
- Properly constrain the scope of an original project to a level suitable for

completion within the available time - **project time estimation**
- Demonstrate understanding of various technologies used to create connected and interactive art works - **know your tools**
- Develop complete documentation for all projects - **show your work**
- Communicate the intent and expression of the things you create - **talk about your work**

Supplies / Must Haves

Services and accounts:

- GitHub account
- Adafruit IO / Adafruit account
- A backup service, such as Dropbox or Backblaze -- (there is zero tolerance for lost projects or documentation. Always Be Saving)
- Glitch account
- Intermedia Studio Slack *contact adam.bachman@gmail.com for an invite if the invitation link doesn't work*

Applications:

- GitHub Desktop (Mac app)
- Arduino
  - ESP8266 board support
- Google Chrome (Browser)

These are all to start with. As we come across an interesting new service or app, we may add it to the list.

Materials:

- Budget between $50 and $100 for materials to use in projects
- Basic sketching / paper prototyping supplies

Grading

Your grade will be based on the following breakdown:

- 10% Attendance
- 30% In class work and Participation
- 20% Project 1: work and documentation
- 20% Project 2: work and documentation
- 20% Project 3: work and documentation

Class participation

> *As a citizen of the classroom, you are expected to actively participate in class exercises, discussions, and critiques. 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.*

(via Sam Sheffield)

In class work

Some class sessions may include small in-class projects or tasks. You will be expected to offer your full attention to the task at hand. For in class work (unrelated to the major projects), you must submit before the next class: an image of the work, the code in its final state, and a brief description.

Projects

All assignments for this course are project based. Beyond the in class projects, there will be three projects that span multiple weeks.

Large projects may be completed independently or in groups of four or fewer people. Collaboration is great, but you are strongly encouraged to do at least one large project solo.

Projects will consist of an original creative work, hardware and software, with an interactive component. All projects must be documented. The three large projects will also include a brief in class presentation and critique.

Projects grades will be assigned based on a combination of:

- 10% the in-progress status of the work
- 60% the final completed work
- 30% documentation

Documentation

What should documentation include?

- Photos of the finished piece and brief (30s to 1m) video of interaction.
- Written description of the project. Less than a page.
- The final, running version of all source code.
- A rough circuit diagram. Descriptive, doesn't need to be technically precise. Sketch, not schematic.
- A description of the data flow.
- A data privacy / ethics statement, if applicable.
- Acknowledgements and references. All references must include links. This includes:
  - inspiration
  - any projects you borrowed code from w/ the license under which it was shared
- A breakdown of each team members' contributions.

Additionally, you may wish to include:

- Description of your process.
- Discussion of idea vs execution / intention vs. outcome.
- Basic "time card" breaking out time spent on:
  - Planning
  - Implementing
  - Polishing

    - Documenting
- List of stumbling blocks or lingering questions.
- Ideas for continuing the project. Where next? How might you do it differently?

Documentation may be the only evidence that you completed the project that lasts beyond this class. First, it's of how I will be able to evaluate your work as the instructor. More importantly, it is how you reflect on what you've done, how you grow as an artist / human being making things, and it will be useful to your career beyond this class.

Also, future projects may require parts from previous ones. That's great! Don't be too precious with old work. Take a pic, write the story, move on.

Unless otherwise specified, all projects must be completed before the start of class on the day they are due.

Unless otherwise specified, project documentation must be submitted via Google Drive or GitHub. Documentation will be due the week after project presentations.

Backups / File Storage

You are expected to maintain a backup system for all your work for this class. Loss of a project due to lost computer, lost flash drive, or hard drive is, unfortunately, not an acceptable excuse.

I recommend Dropbox but GitHub also works.

Course Outline

WEEK	DATE	TOPIC	PROJECT 1	PROJECT 2	PROJECT 3
`001`	Aug 28	Introductions, surveys, setup			
`002`	Sep 04	Full stack overview / connecting and			

		communication			
`003`	Sep 11	APIs and protocols			
`004`	Sep 18	Rapid prototyping	Start		
`005`	Sep 25	*Project work session*	Progress		
`006`	Oct 02	Feedback loops / Randomness and determinism	Crit		
`007`	Oct 09	The Smart Home!	Documentation		
	Oct 16	**FALL BREAK**			
`008`	Oct 23	The Internet of Things Sucks!		Start	
`009`	Oct 30	*Project work session*		Progress	
`010`	Nov 06	Security, Hidden devices		Crit	
`011`	Nov 13	Artificial Intelligence		Documentation	Start
`012`	Nov 20	Escape rooms and other useful nonsense			Progress
`013`	Nov 27	*Project work session*			Progress
`014`	Dec 04	50 year projects			Crit
`015`	Dec 11	Alternatives to traditional education / The Future			Documentation

A more complete outline and additional list of topics is available in `outline.md`.

NOTE: as the semester progresses, this outline is subject to change as needed based on technical requirements or class interest.

MICA Notices

Attendance

You are expected to be at every class unless you have a valid excuse.

Arriving more than 15 minutes after class start is counted as an unexcused absence. Two unexcused absences will result in a reduced grade. Three unexcused absences will result in a failing grade for the course.

Academic Disability Accommodations

MICA makes reasonable academic accommodations for qualified students with disabilities. All academic accommodations must be approved through the Learning Resource Center (LRC). Students requesting accommodation should schedule an appointment at the LRC (410-225-2416 or e-mail LRC@mica.edu), located in Bunting 110. It is the student's responsibility to make an accommodation request in a timely manner. Academic accommodations are not retroactive.

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 Operations 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). If you require academic adjustments due to an incident involving sexual harassment or discrimination, please contact Student Affairs at 410.225.2422 or Human Resources at 410.225.2363. Please be aware that 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 gender based

discrimination made to them by students. However, nothing in this policy shall abridge academic freedom or MICA's educational mission. Prohibitions against discrimination and discriminatory harassment do not extend to actions, statements or written materials that are relevant and appropriately related to course subject matter or academic discussion.

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 or have an official disability accommodation letter issued by the Learning Resource Center that specifically addresses class absences. For students who have not been approved for academic disability accommodations, the Student Development Specialist will 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 professional studies programs must contact the Associate Dean for Open Studies. 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.