UF COLLEGE OF THE ARTS

School of ART + ART HISTORY

Syllabus
ICD 3500C, Spring 2020
Programming for Artists

Time: M/W 6:15 PM - 9:10 PM
Location: FAC 0306

Instructor: Daniel Jolliffe
Email: danieljolliffe@ufl.edu

Office Hours: Tuesday/Thursday 2PM–3PM. Please email me prior to let me know you are coming. Other times possible by appointment. If you have course questions, feel free to email me anytime.

Course Description

Programming is a core competency for artists interested in using a computer to create unique or experimental media artworks. This course is an introduction to the basic programming skills and techniques as they apply to the practice of digital art, and to the principles and processes involved in creating interactive and generative code-based works. We will focus on learning the basic programming approaches necessary to do so, as well as basic design and problem solving techniques as they apply to programming. During the course students will view and discuss historical and contemporary examples of how artists have used coding in art.

In this class, we will exclusively use the open-source programming language *Processing*. The fundamentals of coding languages are highly technical; learning these fundamental building blocks of coding (for example variables, conditional statements, loops, functions and methods, arrays, classes and object-oriented approaches) will constitute a significant part of the course content.

Instruction will be intensively lecture based for the first 10-12 weeks, and move gradually to a studio-based model once students have acquired basic coding competencies.

Course Objectives

At the conclusion of this course you should be able to:
1. analyze potential creative coding projects in order to determine appropriate technical solutions;
2. understand how basic programming structures like variables, conditionals, functions and classes work;
3. use code to manipulate and transform video, images, sound and data;
4. understand the possibilities and limitations of using code creatively;
5. have an awareness of how coding has been used by artists.

Materials

Required Text:

- *Make: Getting Started with Processing* by Casey Reas and Ben Fry

Recommended Videos:

- Coding Train : Daniel Shiffman

Other excellent books:

- Processing: A Programming Handbook for Visual Designers and Artists 2nd Ed - Reas and Fry
  Learning Processing 2nd Ed. - Daniel Shiffman
- Generative Art - Matt Pearson
- Generative Design - Hartmut Bohnacker et al.
- Form + Code - Reas, McWilliams, LUST
- Nature of Code - Daniel Shiffman (natureofcode.com)

Other materials:

Code storage: You must set up a convenient storage method for your code, *and* arrange to backup your work. Cloud storage of your code, such as Dropbox or iCloud, is an ideal solution. Make multiple copies.

Sketchbook: You should have a sketchbook for notes and drawings with you in each class.

General Course Policies

This class combines individual work in the lab with individual and group instruction. You will need to spend significant time working outside of class in order to complete the projects and assignments. A minimum of six hours per week of work outside of class is suggested to get an average grade of a B.

Participation in all class discussions and critiques is considered in the final grade for each project. At any time in the creation process students should be able to produce notes, drawings, charts etc from their sketchbooks, as well as discuss and articulate the nature of their work to their peers as well as to the instructor.

Distribution of grades

- Two major projects: 50% of final grade (25% each)
- Participation: 10%
- Artist presentation: 10%
- Coding assignments: 30% of final grade

Evaluation criteria

Major projects

Adherence to assignment guidelines is the baseline criteria. Meeting the assignment guidelines and requirements will lead to a C+ grade. Meeting all of the following criteria will lead to higher grades:

- *Artistic originality of concept and resulting work:* essentially, did you make something new and original? It does not have to be a masterpiece, but it does have to be a unique work that reflects your process.
- *Does the code run?*
- *Quality of execution:* is the work carefully crafted?
- *Effort*: did you make a substantial and sincere effort?
- *Verbal presentation of work during critiques*, if applicable: did you clearly and effectively articulate your work and concept?
- *Commenting*: is your code well commented? All code that is not self-explanatory must be documented with comments. Do not hold back on commenting. Assignments that are not properly commented will be rejected.
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Participation

Participation will be graded holistically based on:

- you contribution to class discussions and critiques, and
- your overall effort and approach to assignments and class work.

Artist Presentation

The artist presentation will be graded based on:

- quality and depth of research
- depth of insight into artist's work
- quality of the visual and oral presentation

Weekly assignments

The weekly assignments require very precise coding. In contrast with much of art practice and art assignments, there is usually a correct answer to each assignment! This precision means that assignment grades will be binary in nature: it is correct or it is not correct. If your code runs and meets what is asked for in the assignment, you can expect your grade to be reduced for:

- inadequate commenting
- sloppy coding
- technical errors such as failing to declare variables, code executing off-screen and improper program structure.

Grading scale

Assignments will be graded in Canvas and given a numerical value as follows.

- A 94-100: superior work that meets the assignment guidelines and surpasses all evaluation criteria in an exceptional manner
- A- 90–93.99: superior work that meets assignment guidelines and surpasses all evaluation criteria
- B+ 87–89.99: very good work that meets assignment guidelines and surpasses most evaluation criteria
- B 83–86.99: above average work that meets assignment guidelines and surpasses a few evaluation criteria
- B- 80–82.99: slightly above average work that meets assignment guidelines and has evidence of meeting one of the evaluation criteria
- C+ 77–79.99: adequate, average work that meets assignment guidelines but not additional criteria
- C 73–76.99, adequate but below average work that does not completely meet assignment guidelines
- C- 70–72.99, less than adequate work that meets some assignment guidelines
- D+ 67–69.99: barely meets assignment guidelines
- D 63–66.99 fails to meet assignment guidelines
- D- 60–62.99 fails to meet assignment guidelines
- E 0–59.99: entirely fails to meet assignment guidelines

Your final grade for the course will be the letter equivalent of your calculated numerical grade for all projects and participation.

A grade of C- or below will not count toward major requirements. For more information on UF policies on grade points, see http://www.registrar.ufl.edu/catalog/policies/regulationgrades.html

Attendance

Regular attendance is a basic expectation of university education. You are expected to attend all classes. While it is not recommended, you may miss up to two classes without penalty. The third, fourth and fifth absences will cause a one letter grade drop for each absence in your final grade. Upon the sixth absence, a failing grade for the entire class will be assigned. See also the university regulations for attendance: https://catalog.ufl.edu/ugrad/current/regulations/info/attendance.aspx#absences

Instruction will not be repeated for classes that you miss. If you miss a class, check with a classmate and on the class schedule page to see what material you missed. You do not need to email me to let me know you are missing a class, unless it is an exceptional circumstance and you expect to miss many classes (e.g. extended illness, death in the family etc.).

Lateness

Do not be late for class. Repeated lateness will reduce your participation grade.

Late submission of work

All assignments are expected to be submitted on time. In the case of an exceptional circumstances (illness, death in the family etc.) please contact see me regarding for an extension of the due date. In other cases, accepting late assignments is at my discretion and this will incur a grade drop, also at my discretion.

Accommodations for students with disabilities

I am happy to provide accommodations for students with documented disabilities. You must first register with the Disability Resource Center (see https://disability.ufl.edu/). The DRC will provide you with documentation. Bring this documentation to me so that we can work out the appropriate accommodation.

Data Storage and Backup

You are required to make backups and iterations of your project to avoid losing work. If your project is lost and you do not have a backup, you will still be held responsible for delivering the project in on time. There will be no exceptions. Computer failure, equipment malfunction, and file corruption are not accepted as excuses for late or unfinished work so back up your work.

This is extremely important. Establish a data storage method early in the class. The smartest thing to do is to use cloud storage (icloud, Dropbox etc.) that you periodically back up locally. Do not just use your computer or a flash drive, as those are things that can get lost; use at least two methods. Keep everything in the cloud and back it up locally. This way you can edit code in different places without wondering if you are working on the latest version.

Saving

Periodically changing the version number or date in the file name of your program (e.g. "AlgorithmForToastJanuary23_2020.pde") is a very wise idea, as you will be saving old versions that you can go back to if needed. You will also be saving a copy of your programming process, and all the things you have tried along the way. After a few days your file list should look something like this:

AlgorithmForToastJanuary23_2020.pde
AlgorithmForToastJanuary24_2020.pde
AlgorithmForToastJanuary25_2020.pde
AlgorithmForToastJanuary23_2020.WORKING.pde

Software

All of the software we will use will be provided on lab computers. If you wish to work at home rather than in the labs, it is your responsibility to acquire and install the software. Processing, the main package we will use, is available to download, copy and distribute for free. Whatever the case, the university only supports the software in the labs and not any software on your own computer.

Originality

Unless otherwise stated, all video, sound and images included in your submitted work must have been produced by you, during the course of this class, specifically for this class. For example, if you need an image of an alligator, you must (very carefully) find an actual alligator to videotape or photograph. Creative-commons or images and video in the Public Domain are the work of others; do not use it in your work. In short, do not download material made by others to include in your work. *In some very rare cases, I may specifically instruct that Creative Commons or similarly licensed work this is acceptable to include in the assignment in question.*

Academic Honesty

You are required to abide by the Student Honor Code. Any violation of the academic integrity expected of you (e.g. cheating, plagiarism) will result in a minimum academic sanction of a failing grade on the assignment, and may include a reduced participation grade and redoing the assignment for no credit. Second offenses will result in an automatic failing grade for the class. Any alleged violations of the Student Honor Code will result in a referral to Student Conduct and Conflict Resolution. Please review the Student Honor Code and Student Conduct Code at sccr.dso.ufl.edu/policies/student-honor-code-student-conduct-code/

For clarity, plagiarism is the direct copying or paraphrasing of someone else's work without attribution.

The practice of artistic coding relies heavily on code written by others. The Processing IDE was written by someone else, as were multiple libraries included in the package.

When writing code that goes beyond the included libraries, you must very clearly indicate which code you wrote and which code was taken from. If you submit someone else's code as your own, without attribution, this will be considered to be plagiarism.

Guidelines for using the code of others:

- Code written by others may be included in your creative projects with proper attribution, but bear in mind that professors are looking for originality in thought and writing rather than a demonstration of your ability to cut and paste. Want to use a Kinect library written by someone else? No problem, but take great care to be sure that it is properly attributed. ***Always* use very clear commenting at the start and end of code that you did not write.**
- Weekly coding assignments must be entirely written by you, from scratch. Do not copy code from anywhere else. In some cases you will be provided with a basic code patch to begin the assignment; use comments to indicate which part you wrote if this is not clear.
- In the spirit of collaborative learning, you may verbally explain or visually demonstrate to your student colleagues how to reach a solution, but never share assignment solutions in digital or written form. Doing so will lead to academic sanctions.

I have read many hundreds of thousands of lines of code at this point and can tell you that copied code is very easy to spot. Plagiarized code sticks out like a sore thumb, much like the Prada Marfa store.

Email and communications

All email correspondence will be through your UFL gatorlink email address. You are responsible to check your email on a daily basis. No excuses for not having read email will be accepted. It is recommended that you do not forward your UFL email to other services. Other services will sometimes mark UFL email as junk/spam, resulting in you not receiving it. This is not a valid excuse. I commit to responding to your email within 24 hours during the week, and within 48 hours on the weekend.

Cellphones

Cell phones do not, in general contribute positively to the learning environment. They must be silenced during class. Repeated use of a cell phone in class will lead to a reduction in the participation grade.

Evaluations

Students are requested to provide feedback on the quality of instruction in this course based on 10 criteria. These evaluations are conducted online at https://evaluations.ufl.edu. Evaluations are typically open during the last two or three weeks of the semester.

Disruptive Behavior

Be advised that you can and will be dismissed from class for disruptive behavior. More detailed information on this can be found in the UF rules and policies.
Other Policies and Information

Computer Use and Acceptable Use policy

All faculty staff, and students of the University of Florida are required and expected to obey the laws and legal agreements governing software use. Failure to do so can lead to monetary damages and/or

criminal penalties for the individual violator. Because such violations are also against University policies and rules, disciplinary action will be taken as appropriate. See https://it.ufl.edu/policies/acceptable-use/acceptable-use-policy/

Wellness

Contact information for the Counseling and Wellness Center: https://counseling.ufl.edu/, 392-1575; and the University Police Department: 392-1111 or 9-1-1 for emergencies.

Health and safety

See the handbook at https://arts.ufl.edu/academics/art-and-art-history/health-safety/

You must complete a H&S STUDENT WAIVER FORM (available next to the copier in the SAAH office) and on-line (see address above). Waivers must be turned into the SAAH Director of Operations before the end of the 2nd week of classes. Please staple the course sheets together.

Digital media safety guidelines

1. Hazards of Materials: Batteries, old monitors, lamps from digital projectors if broken may release mercury. There are no known health hazards from exposure to intact lamps.
2. The department's digital media technician is certified by the University of Florida to handle hazardous waste.
3. For installations, sets or sculptural elements, please cross- reference with other area specific information as needed
4. Area Rules
   ◦ Follow all SA+AH Health and Safety handbook guidelines.
   ◦ Alcohol is not permitted, even in closed containers.
   ◦ No smoking in the building or within 50 feet of the entry.
   ◦ Do not eat or drink in the lab.
   ◦ Wear shoes at all times.
   ◦ Protective equipment must be worn for hazardous work.
   ◦ Do not block aisles, halls or doors with stored items or when working. This is a violation of fire codes.
   ◦ Do not store anything on the floor. This impedes cleaning and creates a hazard.
   ◦ Do not park bikes in the building.
   ◦ Clean up spills immediately.
   ◦ Take items which do not fit into the trash to the dumpster, following dumpster guidelines.

SA+AH container policy

There are 2 types of labels used in the SA+AH: yellow and white. Both labels are found at the red MSDS box and are supplied by the SA+AH. Each is used for a different purpose.

- White: All new and or used product in containers (hazardous or what might be perceived as hazardous -i.e. watered down gesso, graphite solutions, satellite containers of solvents, powders, spray paints, fixatives, oils, solvents, etc.) must be labeled within the SA+AH area to identify their contents. Labels can be found at the MSDS box in each studio and work area.
- Yellow: designates container as waste. All waste containers must have a yellow label identifying the contents that are designated as trash for weekly EHS pick up. Waste enclosed in Flammable solid containers (red flip top), 5-gallon jugs and fibrous containers must have a yellow hazardous waste label on the outside (top). Each item in the blue bin must have a yellow hazardous waste label.All containers must be marked with your name, contents and date opened. All secondary/satellite containers for hazardous materials must be marked with content, your name and the date opened.
- Unmarked containers will be disposed of without notice.