Syllabus

MART 191 - Creative Coding | Spring 2017

Professor Michael Musick

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- Office Hours:
  - Wed, 12:30PM - 2:00PM (please e-mail to confirm)
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COURSE OVERVIEW

The goal for this course is to begin a journey in which the creative and technical possibilities of the computer becomes a tool in your palate. The goal for this tool, or rather set of tools, is for them to become an extension of you, something you think through, express yourself through, and can contribute to the world through. Ultimately, this course is designed to offer you a deeper understanding of the essential possibilities of computation. The course focuses on the fundamentals of programming the computer (variables, conditionals, iteration, functions, and objects) while also touching on a few advanced topics, and relating this all back to the creative and expressive possibilities of media art. The JavaScript-based 'p5.js' programming framework will be utilized within this class. The course will conclude, with your design, development, and implementation of a final project of your choosing.

Class Discussion Forum

Course GitHub Repo Issues

Homework Wiki

- Homework
- OR, click the "wiki tab" up above.

Technology, tools, and required software

p5.js

We will be using p5.js, a JavaScript framework. As our primary development language.

GitHub & GitHub Pages

You will store and upload all of your class work/assignment to GitHub.com, a git repository manager. This will allow for the easy submission of both code and live examples of your finished assignments via the Internet.

GitHub has a built in feature known as github pages. This is how you will host live versions of your p5.js-based assignments.

You may also want to consider using a GUI-based git manager application. Some of these include SourceTree and GitHub's Desktop app.

Text Editor

You will likely want a separate text editor which you can use to work on p5 assignments as well as write your technical reports in the markdown language. I would suggest Atom.

Command Line

You should work to gain some comfort in the command line this semester as we will use it from time to time.

Browsers

You will need to have multiple browsers installed on your development machine. I would suggest at least Chrome & Firefox, as well as Safari if you are on macOS.

Resources

The following are resources that you may use to help you with this semester and to complete assignments.

Books (optional)

These books are *not mandatory* however, they are useful resources if you feel like you may want a little more support in your new adventure with coding.
- Make: Getting Started with p5.js: Making Interactive Graphics in JavaScript and Processing is probably your best bet for now if you are looking for a book.
- If you are interested in some supplemental reading on HTML and CSS, The HTML & CSS book is a nice one.
- Learn the terminal, it is a powerful tool! Unix for the Beginning Mage

Videos

- Kadenze course
- Shiffman Vimeo channel – no ads
- Shiffman Youtube playlist – has ads

Sites and Forums

- p5.js reference
- p5.js forum
- p5.js tutorials
- Getting Started with p5.js - O'Reilly book
- Intro to Visual Programming with p5.js - online video tutorials (free with signup)

Main Topics

1: Introduction and Related Technologies

- What is computational media?
- Programming language discussion
- Open Source Communities
- Command Line
- Text Documents
- Text Editors
- Git Version Control
- GitHub
- markdown (.md)
- GitHub Pages

2: "Hello World" & The Basics

- p5.js
- "Hello World"
- Remembering of Math
- Variables
- Random-ness
- Conditionals
- Structure
- Functions
- Data types
- Arrays
- Objects

3: Advanced Topics

- Data
- Sound
- Video
- Mobile

Mantras

- "Practice is the best of all instructors." - computation requires practice
- "An agreeable companion on a journey is as good as a carriage." - look to your classmates for help too
- "While we stop to think, we often miss our opportunity." - sometimes you need to take a leap of faith
- "When two do the same thing, it is not the same thing after all." - encourage students with similar ideas
- "The bow too tensely strung is easily broken." - don't get too stressed out
- All of these are from Plubius Syrus,(42 B.C.)

Policies

Homework

We will have weekly assignments that are relevant to material from the previous class. These assignments are required and you should be prepared to show/talk about them in class. It is expected that everyone in the class will create and maintain a GitHub.com repo for their assignments.

Attendance

Attendance is mandatory. Please inform your teacher via email if you are going to miss a class. Two unexcused absences is cause for failing the class. (An unexcused lateness of 10 minutes or more is equivalent to ½ an absence.)

Participation

This class will be participatory, you are expected to participate in discussions and give feedback to other students both in class and through the digital portals.

Exam

There will be a course exam that will occur approximatly ¾'s of the way into the course. This will coer topics ranging from basic math, coding techniques, directory organization, problem solving, and understanding of concepts. You will have at least 3-weeks notice as to the exact date of the exam. The exam will take an entire class period.

Final Project

Class will culminate with final projects. You are expected to push your abilities to produce something that utilizes what you have learned in the class that is useful in some manner to yourself or the world.

Assessment

Grades will be based primarily on the student's ability to:

1. Demonstrate an understanding of the specific characteristics and integrative capabilities of the assigned topic in your own words and code.
2. Articulate a clear and concise perspective. Cutting and pasting or copying word for word off the Internet will result in loss of points.
3. Present an organized file/program, as well as blog entry; including proper and punctual delivery of the assignment files.
4. Demonstrate creativity beyond the expected technical requirements.

IMPORTANT: Assignments handed in after the due date and time will have points deducted for lateness. This will be in addition to any points deducted for content. Those that are uploaded late but within one week of the due date will lose 1 point for lateness. For those uploaded after that, the number of deducted points will be at the discretion of the faculty.

Grade Break Down

Grades will be determined according to the following breakdown:

- Regular Assignments 50%
- Participation and Attendance 20%
- Exam 10%
- Final Project 20%

Letter Break Downs;

- A 94-100
- A- 90-94
- B+ 87-90
- B 83-87
- B- 80-83
- C+ 77-80
- C 73-77
- C- 70-73
- D 60-69
- F 0-59

Grades will be posted in your class moodle shell.

Academic Misconduct and the Student Conduct Code

All students must practice academic honesty. Academic misconduct is subject to an academic penalty by the course instructor and/or disciplinary sanction by the University. All students need to be familiar with the Student Conduct Code. The Code is available online at http://www.umt.edu/vpsa/policies/student_conduct.php

All work must be your own. Plagarism will be considered unacceptable. You are free to work together, but you must help each other come up with unique solutions in such cases.

Changes to the Course

I reserve the right to change the intended content of this course throughout the semester. This may be done to adjust for the speed of the class, to better meet educational goals, or to account for changes in technology.

Attribution

This course is modeled off of NYU ITP's Intro to Computational Media Course. https://github.com/ITPNYU/ICM-2015.

This course was first taught in this format by Michael Musick in the Fall of 2016.