

# Programming as Writing: Syllabus

Last updated: September 3, 2018

*"Every language is a special way of looking at the world"*

Fall 2018

Art 749a: Programming as Writing

Yale University, 107 Green Hall

Tuesdays 1:30–5:20pm

<http://suddenly.rocks>

<http://art.yale.edu/Art749>

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## Questions

- What is programming?
- What is writing?
- Is programming like writing?
- Is writing like programming?
- Is coding writing?
- Is writing coding?
- (Are programming and coding the same?)
- Why does one create a program?
- Why does one write an essay? A poem? A letter?
- What is interactivity?
- What is hypertext?
- Is literature like hypertext?
- Can something be more interactive than another?
- ...

## Overview

"Learning to code through reading and writing" — This studio course introduces fundamental concepts of programming for the web. As a participant, you will develop technical skills through the development of your own writing. The course believes that programs should be written not only for computers to process but for humans to read. While best practices are discussed, a variety of techniques that

consider craft, tone, and style—challenging the notion of a singular, universal method—will be discussed and explored. After being introduced to document structuring and semantic HTML, you will navigate from client-side to server-side programming by learning JavaScript and PHP. In this course, your writing surfaces include not only a forward-facing web application and its constituent code, but also the code's annotation, written for a future reader.

## Participants

This course is intended for first-year students with little or no programming experience. It's also a prerequisite for Networks and Transactions in the Spring.

It's open to approximately 12 first-year graduate students in the Graphic Design MFA. Approximately two other spots are reserved for other graduate students.

If you have special circumstances but are still interested, you can email me ([laurel@linkedbyair.net](mailto:laurel@linkedbyair.net)) directly. I will email everyone on Sunday, September 9th regarding the final class roster.

## Class & course design

This course will meet for 15 individual classes.

While it is a technical studio, this course takes its form from a typical writing workshop. Together we will try new, experimental approaches towards writing and programming. How does writing influence programming? How does programming influence writing?

In general, each class will contain some of the following:

- reading response show and tell / discussion
- free writing / independent problem solving hour
- short writing exercise
- technical demo
- group discussion

We will likely cover these technical topics:

- Setting up a server, buying a domain name
- UNIX
- HTML
- JavaScript
- PHP
- Kirby CMS (which uses PHP)

We may think broadly about:

- literacy

- literature
- naming
- structure
- style
- layers
- hypertext
- communication
- publication

This course's focus is making web-based writings and programs. At the end of this course, therefore, you will have created many websites—similar to how you would have many stories and/or written experiments at the end of a writing workshop. You will consider your works together collectively, forming a thoughtful networked anthology or publication.

## Calendar

**Class 1 — Tuesday, September 4**

*I will email participants on Sunday, September 9 regarding their status in the class.*

**Class 2 — Tuesday, September 11**

**Class 3 — Tuesday, September 18**

**Class 4 — Tuesday, September 25**

**Class 5 — Tuesday, October 2**

**Class 6 — Tuesday, October 9**

**Class 7 — Tuesday, October 16**

**Class 8 — Tuesday, October 23**

**Class 9 — Tuesday, October 30**

**Class 10 — Tuesday, November 6**

**Class 11 — Tuesday, November 13**

*~ November Recess ~*

**Class 12 — Tuesday, November 20**

**Class 13 — Tuesday, November 27**

**Class 14 — Tuesday, December 4**

**Class 15 — Tuesday, December 11**

## **Resources**

All technologies introduced in class are well documented online. While general overview of skills are given in class, the best learning of these skills happens through practice on projects you care deeply about. Since the web and its constituent code is constantly changing, there is no one resource that is best. Instead, you should aim to absorb resources from a variety of sources and put them to use through trial and error. If you are having difficulties, please take time to first troubleshoot online by yourself.

If you find yourself stuck while writing code (which is extremely common—even for the best programmers), first try breaking your problem down into smaller, more manageable parts. Search Google or Stack Overflow for how to solve those parts, one at a time. Remember that most of the time spent writing code will be fixing bugs. In fact, learning how to debug is what programming is all about! (And sometimes bugs will allow you to discover something new and never seen before.)

## **Attendance & Evaluation**

Attendance is essential. Three or more absences will result in a failing grade. If you absolutely must miss class, please email me in advance.

As long as you attend class and are an active and curious participant in the class, you will receive a passing grade. Therefore, how you use this class is up to you—please treat it as a space to explore an aspect of programming and writing you're deeply interested in.

While there will be in-class discussions, I understand that each student has their own way of participating. This class is designed with multiple communication pathways and mediums, allowing flexibility here. But please speak to me individually if you ever would like clarity on your level of participation.

## **Materials**

We won't be in a computer lab, so please bring your personal laptop to each class.

## **Academic Integrity**

You will become familiar with using pre-existing language, images, and software as raw material while creating entirely new work. While making websites, we will explore which technologies could be appropriated and how to properly credit their inclusion.

From [Academic Writing at MIT, "Writing Code"](#):

*"Writing code is similar to academic writing in that when you use or adapt code developed by someone else as part of your project, you must cite your source. However, instead of quoting or paraphrasing a source, you include an inline comment in the code. These comments not only ensure you are giving proper credit, but help with code understanding and debugging."*

*"You should not simply re-use code as the solution to an assignment. Like academic writing, your code can incorporate the ideas of others but should reflect your original approach to the problem."*

You might consider retyping someone else's code instead of copying and pasting it. It might help you better learn. On that note, be careful about pasting huge blocks of code. I'd recommend doing things one step at a time so you really understand what each part is doing.

## Literate Programming

This course takes inspiration from Donald Knuth's "Literate Programming":

<http://literateprogramming.com>

*"Let us change our traditional attitude to the construction of programs: Instead of imagining that our main task is to instruct a computer what to do, let us concentrate rather on explaining to human beings what we want a computer to do."*

*"The practitioner of literate programming can be regarded as an essayist, whose main concern is with exposition and excellence of style. Such an author, with thesaurus in hand, chooses the names of variables carefully and explains what each variable means. He or she strives for a program that is comprehensible because its concepts have been introduced in an order that is best for human understanding, using a mixture of formal and informal methods that reinforce each other."*

## Credits

This is a completely new class that has been generously shaped and supported by many, including Ayham Ghraoui ('17), Sheila Levrant de Bretteville ('64), Rosa McElheny ('19), Dan Michaelson ('02), and Matthew Wolff ('18).

Opening quote:

Clyde Kluckhohn, *Mirror for Man: The Relation of Anthropology to Modern Life*