

Intro. to
Creative Coding
CMSC 19911

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UChicago
Summer Course
Immersion

Course description

Creative Coding is an introductory programming class, using the JavaScript programming language and the p5.js JavaScript library. We will make things that use various digital media, such as vector and raster graphics, fonts and text, dynamic and interactive animations, and web applications.

No prior experience with coding, or creativity, is required.

cs111: This summer course is based on **CMSC 11111** (pronounced "cs one-eleven"), so you will see that number in a few places across the course materials.

Course staff

Instructor

Wind Beneath
Our Wings



Sam

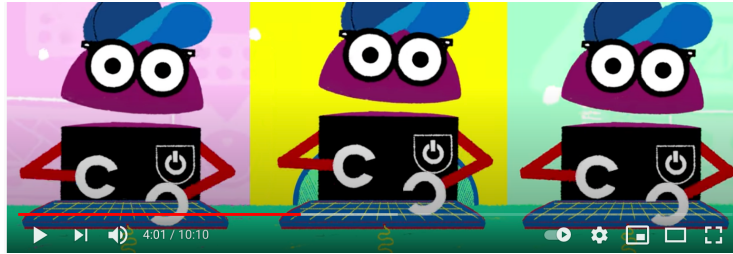


Andrew

Why did we make this course?

We want you to learn how to program, and have fun with it. And selfishly, we want excuses to write creative code and code for creative coding.





StoryBots: "Professions" (by Netflix Jr.)

What is p5.js?

p5.js

From the [p5.js website](#):

p5.js is a JavaScript library for creative coding, with a focus on making coding accessible and inclusive for artists, designers, educators, beginners, and anyone else!

Among the many wonderful parts of their tools and of their community is the [p5.js Web Editor](#), which makes it extremely easy to get started sketching code directly in the browser. For this class, we have forked and customized the editor.

When and where will we meet?

Class meetings

Classes will meet in **Ryerson 255** between 9am-3pm CT, with a lunch break between 11:15am-12:45pm. Our menu includes a mix of live coding lectures with discussion and group exercises.

Course materials

We're not really using the course **CANVAS**. The **SCHEDULE** is the main hub for the course, where you will find all readings and assignments.

Discussion board

Course communication will be run on **ED**. Please start there rather than email whenever possible. Responses will be faster, and you will benefit from each other's questions and the discussion. Private posts can be marked private.

Code editor

Our custom web **EDITOR** is the place to do all your work. You will submit all homework assignments through the editor.

The editor will automatically create "pull requests" in your GitHub Classroom repo, with appropriate folders containing your submissions. After you tell us which GitHub USERNAME (distinct from your CNetID) to use for the course, your submission repo will live at:

<https://github.com/UChicago-PL/creative-coding-su25-USERNAME>

Office hours

Please see **Ed** for a schedule of times to meet with course staff outside of class time.

What to read?

There are no required textbooks for the course.

We are borrowing many delightful p5.js and JavaScript tutorials written by **Happy Coding** [@KevinAWorkman](#) at **Happy Coding**. We are hosting these tutorials locally on our site with small changes specific to our course. Thank you, Kevin!

Later in the course, after we get the basics under our belts, we will write or link to additional reading material as well.

Several exercises and assignments will be inspired by *Code as Creative Medium* by [@GolanLevin](#) and [@LegaBrain](#).

This book is a gem, filled with a variety of ideas and prompts for creative coding projects. It may be particularly handy as you brainstorm concepts for independent projects.



Beyond the countless JavaScript tutorials and books you might seek out, the p5.js page recommends some **books**.

How do grades work?

Overall breakdown

- 20% = attending and participating in lecture discussions
- 20% = attending and participating in group exercises
- 60% = 7 homework assignments (lowest grade dropped)

Thresholds for final letter grades are not predetermined.

Class participation

As per the **Summer Session policy**, attendance is mandatory and absences will be reported to the Summer Session office.

Participating in the discussions during lecture is also required. In general, everyone should aim to ask or answer at least one question per session (morning and afternoon).

You may **not** use electronic devices (computers, phones) during the lecture and discussion portions of class. You will have plenty of time to work on the computer during group exercises, as well as other scheduled "lab time" sessions.

Group exercises

In most sessions, we will break into small groups with your creative and colorful classmates to work on exercises.

We will practice **mob programming**, where one person per group drives but everyone works together. Writing code, talking code, and working together are all important programming skills that require practice. (And **mobs** rule.)

Practice exercises are designed to be completed and submitted by the end of a given session.

These frequent exercises aim to foster your engagement and learning; there is no substitute for typing up code with your own digits. We will likely randomize groups and mob leaders.

Homeworks

Homeworks will consist of larger programming tasks, generally due at 11:59pm CT. All homework assignments are meant to be done individually. See the **academic integrity policy** below.

Homeworks will be graded with an assignment-specific rubric that involves factors pertaining to your canvas, as well as the code which generates it.

We won't be extremely strict about code style, but generally you should follow **Mozilla's JavaScript guidelines** as well as the **JSHint hints** that are provided by the code editor.

Barring extenuating circumstances with requests approved in advance, a late homework submission will receive

- a 25% penalty if within 1 day after the deadline,
- a 50% penalty if 1-2 days after the deadline, and
- zero credit if 2 or more days after the deadline.

Any course policies?

Academic integrity

From the College **Academic Integrity & Student Conduct** policy:

All members of the University of Chicago belong to a tradition dedicated to the pursuit and cultivation of learning. A few simple principles – academic honesty, mutual respect and civility, personal responsibility – lie at the heart of our intellectual community. Each of us – students, faculty and staff – is pledged to live up to these standards and to support each others' efforts in this regard. We take these values seriously...

And the **Academic Honesty and Plagiarism** policy:

It is contrary to justice, academic integrity, and to the spirit of intellectual inquiry to submit another's statements or ideas of work as one's own. To do so is plagiarism or cheating, offenses punishable under the University's disciplinary system. Because these offenses undercut the distinctive moral and intellectual character of the University, we take them very seriously.

Proper acknowledgment of another's ideas, whether by direct quotation or paraphrase, is expected. In particular, if any written or electronic source is consulted and material is used from that source, directly or indirectly, the source should be identified by author, title, and page number, or by website and date accessed. Any doubts about what constitutes "use" should be addressed to the instructor.

Student interactions are an important and useful means to mastery of the material. We recommend that you discuss the material in this class with other students; that includes the practice exercises and homework assignments.

So what is the boundary between acceptable collaboration and academic misconduct?

For Practice Exercises, there are no restrictions. By design, you will work in groups, so you can even send code files to each other if you choose. (Though keep in mind the importance of typing up and understanding the exercises on your own.)

For Homework assignments, while it is acceptable to discuss them, it is not acceptable to turn in someone else's work as your own.

When the time comes to write down your answer, you should write it yourself from your own memory. You should not send homework code files back and forth. You should not copy from someone else's screen. You should not allow someone else to copy your work.

Regarding Generative AI tools such as ChatGPT, you may use them to ask specific conceptual questions, but you should never request that the system generate any code for you. For example, it would be appropriate to ask ChatGPT the following: “I know how to append an element at the end of a list in JavaScript, but how do I add an element at the start of the list?”. It would also be appropriate to use ChatGPT to deepen your understanding of topics we’ve covered in class. For example: “I am familiar with for-loops. Can you tell me about other types of loops in JavaScript?”

Moreover, you should cite any material discussions (with classmates or others) and any written sources you consulted (e.g. websites, textbooks, or AI assistants like ChatGPT) in comments at the top of your code files. For example:

```
// I discussed the computation of the polygons in this
// assignment with ${NAME}.
//
// ${NAME} helped me debug issues I was having drawing
// super-rectangles.
//
// I also found code from ${URL} that performed some
// visual effect, and I adapted it to.
```

For student collaborations, it can be a slippery slope that leads from sanctioned collaboration to outright misconduct. But for all the slipperiness, there is a clear line: present only your ideas as yours, and attribute all others.

If you have any questions about what is or is not proper academic conduct, please ask us.

Diversity

[Borrowed from Stuart Kurtz and then adapted]

The University of Chicago is committed to diversity and rigorous inquiry that arises from multiple perspectives. We concur with this commitment and also believe that we have the highest quality interactions and can creatively solve more problems when we recognize and share our diversity. We expect to maintain a productive learning environment based on open communication, mutual respect, and non-discrimination. We view the diversity that students bring to this class as a resource, strength, and benefit. It is our intent to present materials and activities that are respectful of diversity: gender, sexuality, disability, generational status, socioeconomic status, ethnicity, race, religious background, and immigration status. Any suggestions for promoting a positive and open environment will be appreciated and given serious consideration.

Sexual misconduct

Our school is committed to fostering a safe, productive learning environment. [Title IX and our school policy](#) prohibits discrimination on the basis of sex. Sexual misconduct – including harassment, domestic and dating violence, sexual assault, and stalking – is also prohibited at our school.

Our school encourages anyone experiencing sexual misconduct to talk to someone about what happened, so they can get the support they need and our school can respond appropriately.

If you wish to speak confidentially about an incident of sexual misconduct, want more information about filing a report, or have questions about school policies and procedures, please contact our [Title IX Coordinator](#), which can be found on our school's website.

Our school is legally obligated to investigate reports of sexual misconduct, and therefore it cannot guarantee the confidentiality of a report, but it will consider a request for confidentiality and respect it to the extent possible.

As a teacher, we are also required by our school to report incidents of sexual misconduct and thus cannot guarantee confidentiality. We must provide our Title IX coordinator with relevant details such as the names of those involved in the incident.

Mandatory reporting of child abuse or neglect

The instructor and staff for the Creative Coding course are mandated reporters and are required to report suspected child abuse or neglect to the Illinois Department of Child and Family Services. For more information, please see [this University policy](#).

REPRESENTATIVE SYLLABUS