# EECS 110: Discover CS
## Syllabus

**Instructor**
Amanda Yao, yueyao@umich.edu

**Meeting times**
Tues 3:30 - 5:20 pm, 1050 FMCRB

**Office hours**

Monday 7 - 8 pm via zoom

Tuesday 5:30 - 6:30 pm in-person (1050 FMCRB)

Thursday 5 - 6 pm via zoom

If you are unable to attend scheduled office hours but need to meet, please send an email to Amanda with the subject line "EECS 110 Meeting". We will do our best to accommodate your schedule.

**Course description**
Welcome to Discover CS! In this class, you will begin to explore some of the different areas of computer science. Using the programming language Python, we will teach basic CS concepts, as well as showcase the wide range of real-world, interdisciplinary applications of CS. This class is designed to be interactive, and much of our class time will be spent programming and problem solving collaboratively. We will also have the chance to interact with visiting researchers and computing professionals. Our hope is that you will walk away from this class excited about the possibilities available to you in computer science!

While all are welcome, this class is particularly designed for students from groups that have been historically underrepresented in computer science with no formal programming experience.

**Course format**

This course is offered in-person but the class format is subject to change based on the Covid situation. Some guest lectures and industry panels may be virtual via zoom.
The class will be divided into two parts. I will give lectures during the first half (3:30-4:20 pm EST) and we will walk through some sample python code together. The second half (4:30-5:20 pm EST) will be Q&A and problem-solving (i.e. Labs) in small groups.
Once we transition to working on projects, we will schedule meeting times that work the best for members of your group.

## Website

A detailed schedule, including class topics and assignment due dates, is available on Canvas.

## Forum

We will be using Piazza to host a course forum. You are required to read this forum regularly; it is the venue we will use for important course announcements and assignment clarifications. In addition, it will be a significant source of help and hints on the assignments. We do not answer technical questions via email. In order to save everyone time, we want all students to have the benefit of seeing each question and its answer, so please use the forum. Please do not post your own solutions, project code, test cases, or output to the forum. Also, please search the forum before posting to avoid questions that have already been asked and answered.

## Contact

Please direct all technical questions to our Piazza forums. For other questions, you can reach us through private posts on Piazza, or by email.

## Programming Environment

The programming environment we will use for this course is [Google Colab](#). You can access Colab with your University of Michigan google account. When you turn in programming assignments, **you must download them to your computer** and upload them to canvas.

## COVID Policy

I strongly recommend taking the booster shot as early as possible. According to the school's policy, booster shots are required no late than Feb. 4.

If you are sick or have any symptoms, please DO NOT come to class and follow the school recommendation for proper quarantine.

In-person attendance is highly recommended but not required as long as you finish the weekly engagement assignments on time. Attendance for 4 guest lectures and panels are required but they will be virtual (tentatively).

Amanda's lectures will be recorded and available on Canvas but NO live zoom attendance. Guest lectures and panels will not be recorded.

I understand this semester can be hard due to covid, please contact Amanda anytime if you have any difficulties!

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## Course work and grading

Weekly Engagement: 10% (1% per week)
Programming assignments: 40% (4 assignments, 10% each)

Computer science interview: 10%
Final project: 25%
Flex points: 15% (each flex point = 1% of final grade)

*Weekly Engagement*
There will be thirteen class periods throughout the semester, and each student must earn engagement points for ten classes for full credit. If you miss more than this, points will be deducted. (If you are forced to miss class or unable to turn in your work for medical reasons or other emergencies, please contact the instructors directly.)
- **There are four class periods during which attendance will be taken (schedule subject to change but the general rule, attendance will be taken during all the guest lectures and panels): February 1, February 15, March 8, and March 29.** Students who know ahead of time that they cannot attend may request to be exempted from this, and will instead submit questions for guest speakers beforehand. Please speak with Amanda for details.
- April 5 and April 12 will be devoted to project meetings; April 19 will be devoted to project presentations; everybody is expected to attend, but we will schedule multiple meetings at different times to ensure that this is not a challenge.
- For other class periods, you will be asked to turn in what we worked on during class, typically a colab notebook. These will be due Wednesday at 6 PM, 24 hours after the class is over.

Weekly engagement requirements for each class period will be laid out clearly on canvas.

*Programming assignments*
There will be four programming assignments at the beginning of the semester to demonstrate your grasp of basic computer science principles. Each assignment will specify the material to be turned in. Assignments are due by the beginning of class on the due date. Assignments may be turned in up to 3 days late, with a penalty of 10% for each day late. No credit will be given after 3 days excluding emergencies.

Assignments 2 and 4 will be completed with partners as pair programming assignments. You may select a partner up to two weeks before the assignment is due; if you have not selected a partner, I will assign one.

*Computer science interview*
Each student must interview someone farther along in the field of computer science and engineering (e.g., an older undergraduate student, a graduate student, a faculty member, a computing professional). We encourage you to interview someone that you can relate to (e.g., interviewing a woman if you are a woman). The interview should focus on the career path and experiences of the person you are interviewing. We will provide some funds to allow you to take the person you are interviewing out to coffee. More details will be provided towards the beginning of the semester.

After the interview, each student must write a two-page paper (single-spaced) about what they learned from the interview. This paper will be due on March 29.

*Final project*
Each student will work with a team to complete a final project of their choice. There will be a set of projects to choose from, and groups will rank their preferred projects. This project will have three milestones: project selection (date TBD), a check-in (date TBD), and code + presentation (due April 19). More details will be forthcoming about the requirements for this project.

*Flex points*
In order to get full credit in the class, you must earn at least 15 flex points throughout the semester. These flex points can be earned through participating in activities related to the class, as well as other computer science activities. All flex points must be earned by the last day of class, April 19. A full list of activities available for flex points is available on Canvas.

We will track flex points on Canvas. Many of these points are graded using the honor system. Please note that it is a violation of the honor code to tell us that you've attended an event when you really have not; such violations will be reported to the honor council (see the section below).

## Course Schedule
This schedule is tentative and subject to change. Do your best to attend each class period; however, attendance will only be taken on the dates highlighted in <mark>yellow</mark>. Please refer to Canvas for the most up-to-date schedule

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|---|---|
| **January 11** | Thinking through problems like a programmer |
| **January 18** | Python Lesson #1: Using colab, first program |
| **January 25**<br>*Homework 0 due* | Python Lesson #2: If statements, variables |
| **February 1** | TBD<br>Likely: guest lecture |
| **February 8**<br>*Homework 1 due* | Python Lesson #3: Loops |
| **February 15** | TBD<br>Likely: Undergraduate Panel |
| **February 22**<br>*Homework 2 due* | Python Lesson #4: Lists, dictionaries |

| March 1 | *NO CLASS - Spring BREAK* |
|---|---|
| **March 8** *Homework 3 due* | TBD Likely: guest lecture |
| **March 15** *Final project teams selected* | Python Lesson #5: Functions, libraries Project Introductions |
| **March 22** *Homework 4 due* | Python Lesson #6: TBD, possibly catch-up |
| **March 29** *Computer science interview due* | TBD Likely: Industry panel |
| **April 5** | Project workday |
| **April 12** | Project workday, group office hour for help |
| **April 19** *Project code due* | Project presentations (multiple meetings) |

## Policy on Collaboration and Cheating

All cheating will be reported to the Engineering Honor Council, as appropriate. While you are allowed to work together and collaborate on assignments, you are not allowed to copy someone else's work and represent it as your own. You must write your own code, and you must understand the code that you write. Proper pair programming practices must be followed when pair programming is required.

As mentioned above, it is also considered cheating to lie in order to gain additional flex points. For example, it is cheating if you say that you have attended an event that you did not really attend.

## Student Mental Health and Wellbeing

The University of Michigan is committed to advancing the mental health and wellbeing of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available. For help, contact Counseling and Psychological Services (CAPS) at (734) 764-8312 and https://caps.umich.edu during and after hours, on weekends and holidays, or through its counselors physically located in schools on both North and Central Campus. You may also consult University Health Service (UHS) at (734) 764-8320 and https://www.uhs.umich.edu/mentalhealthsvcs, or for alcohol or drug concerns, see www.uhs.umich.edu/aodresources.

For a listing of other mental health resources available on and off campus, visit http://umich.edu/~mhealth/.

## Accommodations for Students with Disabilities

If you think you need accommodation for a disability, please let your instructor know at the beginning of the semester or at least 2 weeks in advance.   As soon as you make us aware of your needs, we can work with the Services for Students with Disabilities (SSD) office to help us determine appropriate academic accommodations.  SSD (734-763-3000; http://ssd.umich.edu) typically recommends accommodations through a Verified Individualized Services and Accommodations (VISA) form. Any information you provide is private and confidential and will be treated as such.

## Religious/Cultural Observance

Persons who have religious or cultural observances that coincide with this class or any deadlines should let the instructor know by email by January 24.  I strongly encourage you to honor your cultural and religious holidays!  However, if I do not hear from you by January 24, I will assume that you plan to attend all class meetings.