

# EECS 110: Discover CS

## Syllabus

### Instructor

Elizabeth Lipin, [elipin@umich.edu](mailto:elipin@umich.edu)

### IA

Lillian Schneider, [lillschn@umich.edu](mailto:lillschn@umich.edu)

### Meeting Times

Tuesday 3:30 - 5:30 pm in DOW 1017

### Office Hours

Lillian:

Monday 4:30-6:00 pm in BBB 2733

Friday 3:00-4:30 pm virtual (remote queue [here](#))

Elizabeth:

Tuesday 2:00-3:20 pm in BBB 2901

Thursday 10:30-12:00 pm in BBB 4941

- January 26 Virtual
- March 23 BBB 2733
- April 20 BBB 2733

Saturday 2:00-3:30 pm virtual (remote queue [here](#))

If you are unable to attend office hours during the scheduled times, please send an email to Elizabeth or Lillian with the subject line 'EECS 110 office hours' to set up an individual 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. 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

EECS 110 will be taught in-person this semester. The class will be divided into two parts, with lectures during the first half (~3:30-4:30 pm) and problem-solving labs in small groups or Q&A sessions for the second half (~4:30-5:20 pm). The lecture portion of class will be recorded and available to view on Canvas after the class is complete.

## Class Website

Course information such as the schedule, assignments, etc. can be found on [Canvas](#). Lecture slides and in-class materials will be posted before the start of lecture. The solutions to in-class exercises will be posted after class. The solutions to homeworks and labs will be posted after the due date.

We will use the website [Gradescope](#), accessible from the Canvas website, to submit assignments and labs.

## Class Forum

We will use [Piazza](#) to answer questions and post announcements/reminders. Piazza will be a significant source of help and hints for class assignments. You are expected to check Piazza regularly throughout the course.

Find our class signup link at: <https://piazza.com/umich/winter2023/eecs110001wn2023>

Please use the forum to post your technical questions and allow other students the benefit of seeing questions and answers. Technical questions will not be answered over email. Before posting your question, it is advised that you search the forum for previously posted questions to avoid duplicates. You are encouraged to answer questions posed by your peers and discuss the questions. However, please do not post your own solutions, project code, test cases, or output to the forum. Answers will typically be provided within 24 hours.

## Contact

Please direct your technical question to Piazza, following the guidelines described above. Any additional questions or concerns can be sent through private Piazza messages or over email to course instructors.

## Programming Environment

We will use the programming environment Google Colab for this course, which can be accessed with your University of Michigan email account. To turn in programming assignments, you must download your code to your computer and upload it to Gradescope.

## Course work and Grading

Attendance: 3% (8 out of 10 classes)

Weekly Engagement: 7%

Programming assignments: 40%

Computer Science interview: 10%

Final project: 25%

Flex points: 15% (each flex point = 1% of final grade)

## Attendance

There are 10 class periods during which attendance will be taken (highlighted in yellow on the schedule). Each student will have 2 free skip days you may use to miss class, no questions asked. Missing more than this will result in points being deducted. There will also be 3 class periods, April 4, April 11, and April 18, with mandatory attendance for all (see schedule for more info). These class periods do not count as possible skip days and will be used for project group check-ins and presentations respectively. Missing either of these classes will impact your final project grade (on an individual basis).

If you are forced to miss additional classes for personal emergencies or health/medical reasons, etc., please contact Elizabeth directly.

## Weekly Engagement

Each class will have a way for you to earn engagement points for that class period. For class periods with labs, you will turn in (as a group) the collab notebook worked on in class. These are due Wednesday at midnight. For classes with guest lectures/panels you are required to individually submit a Google form (made available on the Canvas site) with questions to ask the guests. These will be due the day before class, Monday at midnight, in order to allow instructors time to look over and make a list of the questions submitted before class. Please note, the

weekly engagement points are separate from class attendance points. If you are unable to come to class, you are still responsible for turning in the class period's weekly engagement activity.

If you are missing the class period due to personal emergencies or health/medical reasons, etc. that will make meeting the deadline difficult, please reach out to Elizabeth to discuss your options.

## Programming Assignments

There will be four programming assignments at the beginning of the semester to demonstrate your grasp of basic computer science principles. There will also be one "mini" assignment at the beginning of the semester to make sure everyone is comfortable with the Colab environment we will be using. 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. 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 28.

## 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 (March 14th), a check-in (April 4th), and code turn-in + presentation (April 11th). 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 11th. A full list of activities available for flex points is on Canvas.

We will track flex points on Canvas. Some activities will require you to fill out a Google sheet and others will be tracked automatically. 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 section Policy on Collaboration and Cheating below).

# Course Schedule

This schedule is tentative and subject to change. Please refer to Canvas for the most up-to-date schedule.

Attendance taken – free skip days can be used  
Attendance required – free skip days cannot be used

Date:	In-class:	Due:
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January 10	Thinking through problems like a programmer Lab #1: Using colab	
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January 17	Python Lesson #1: Input/output, math, variables Lab #2: input/output, math, variables	
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January 24	Python Lesson #2: If statements, variables Lab #3: if statements, variables	Homework 0 due
January 31	Python Lesson #3: Loops Lab #4: loops	
February 7	Guest Lecture Professor Roya Ensafi Q & A	Homework 1 due
February 14*	Industry Tour @ Atomic Object	
February 21	Python Lesson #4 : Lists, dictionaries Lab #5: lists, dictionaries	Homework 2 due
February 28	No Class – Spring Break	
March 7	Python Lesson #5: Function, libraries Lab #6: image manipulation	Homework 3 due
March 14	Undergraduate Panel Introduce Final Project	Final Project and Team Selection Survey due March 14th (Friday)

March 21	Guest Lecture: Professor Reetuparna Das Q&A	Homework 4 due
March 28	Project work day	Computer Science Interview due
April 4	Final Project Check-In (virtual options will be available)	Final Project Check-In
April 11	Final project presentations *mandatory attendance for all*	
April 18	Industry panel	Final projects due

\* due to changes in scheduling: everyone will get attendance credit for attending this, even if you elect not to come

## 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 or attendance points. For example, it is cheating if you say that you have attended an event that you did not really attend.

## Religious and Cultural Observance

Anyone with religious or cultural observances that coincide with this class or any deadlines should let the instructor know by email by January 20th. I strongly encourage you to honor your

cultural and religious holidays! However, if I do not hear from you by January 20th, I will assume you plan to attend all class meetings.

## Student Mental Health and Wellbeing

Students may experience stressors that can impact both their academic experience and their personal well-being. These may include academic pressure and challenges associated with relationships, mental health, alcohol, or other drugs, identities, finances, etc. If you are experiencing concerns, seeking help is a courageous thing to do for yourself and those who care about you. If the source of your stressors is academic, please contact me so that we can find solutions together. For personal concerns, U-M offers many resources, so of which are listed at [Resource for Student Well-being](#) on the Well-being for U-M Students website. You can also search for additional resources on that website.

Counseling and Psychological Services (CAPS) at 734-764-8312 or <https://caps.umich.edu> during and after hours and on weekends and holidays, or through its counselors physically located in schools on both North and Central campuses.

You may consult University Health Services (UHS) at 734-764-8320 and <https://www.uhs.umich.edu/mentalhealthsvcs> or for alcohol or drug concerns, see <https://uhs.umich.edu/aodresources>.

## Accommodations for Students with Disabilities

If you need accommodations 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 determine appropriate academic accommodations. SSD (734-763-3000; <https://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.