

EECS 110: Discover CS

Winter 2025

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

Course Overview

Welcome to Discover CS! In this class, you will begin to explore different areas of computer science. Using the programming language Python, we will cover basic CS concepts, as well as showcase the landscape of educational and career opportunities in computer science. 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 with no formal programming experience.

Staff

Instructor

Tamara Nelson-Fromm, tamaranf@umich.edu

Contact

Please direct your technical questions to Piazza (more information on Piazza is in the [Online Tools](#) section). We want all students to have the benefit of seeing each question and its answer. For anything other than technical questions, including advice on majors, that you need to miss class, etc., please do reach out – either through email, or private or public Piazza post.

Please do not send us emails asking “Can I get partial credit on this assignment even though the regrade request due date has passed?” or “I’m only X% away from an A-, is there anything I can do?”. We do not adjust grades based on requests from individual students, and it is inappropriate to ask. Please refer to the [Regrade Policy](#) section for more information.

Attendance Policy

Attendance will be taken during all class periods. 2 attendance points will be dropped for each student, to allow for missing class due to minor illness, job interviews, student organization commitments, or other unexpected events.

If you experience significant illness or other events which will cause you to miss multiple or subsequent classes, please contact Tamara directly. **If you miss class, you are still responsible for completing all quizzes and assignments prior to the deadline unless you are given an extension *prior* to the due date.**

Office Hours

Tamara's Office Hours:

3-3:30pm in DOW 1017

Book a meeting during my regular online hours (10am-12pm Tuesday, 2pm-4pm Wednesday, 3pm-5pm Thursday) below

<https://calendly.com/nelsonfromm/eecs-110-office-hours>

Office hours are at the zoom link provided in the calendly. Meetings can be in-person by request.

*If you are unable to attend office hours during the scheduled times, please send an email to Tamara with the subject line 'EECS 110 office hours' to set up an individual meeting. I will do our best to accommodate your schedule. Please note that individual meetings generally need to be made at least **24 hours in advance**.*

Course Schedule

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

Date:	In-class:	Due:
January 14	Class Intro & Programming Intro <u>Lab #0</u> : Getting Started & Using Colab <u>Quiz #1</u> : About You	
January 21	<u>Python Lesson #1</u> : I/O, Math, Variables <u>Lab #1</u> : I/O, Math, Variables <u>Quiz #2</u> : Syllabus	

January 28	<u>Python Lesson #2</u> : Booleans, Conditionals, Loops <u>Lab #2</u> : Booleans, Conditionals, While Loops <u>Quiz #3</u> : I/O, Math, Variables <i>Homework 1 released</i>	<i>Homework 0 due</i>
February 4	<u>Python Lesson #3</u> : For Loops <u>Lab #3</u> : For Loops <u>Quiz #4</u> : Booleans, Conditionals	
February 11	<u>Python Lesson #4</u> : Lists, Dictionaries <u>Lab #4</u> : Lists and Dictionaries <u>Quiz #5</u> : Loops <i>Homework 2 Released</i>	<i>Homework 1 due</i>
February 18	<u>Python Lesson #5</u> : Functions <u>Lab #5</u> : Functions <u>Quiz #6</u> : Dictionaries <i>CS Interview Survey Released</i>	
February 25	<u>Lesson</u> : Functions II <u>Quiz #7</u> : Functions	<i>Homework 2 due</i> <i>CS Interview Survey due</i>
March 3-7	Spring Break, No Class	
March 11	<u>Python Review & More Libraries</u> <u>Quiz #8</u> : Review <u>Lab #6</u> : Common Libraries <i>Homework 3 Released</i>	
March 18	<u>Project Intro & Debugging</u> <u>Lab #7</u> : Debugging <u>Quiz #9</u> : Project Details	
March 25	<u>Image Manipulation & Filters</u> <u>Lab #8</u> : Images <u>Quiz #10</u> : Debugging	<i>Project Selection form due</i> <i>March 24th</i> <i>Homework 3 due</i>
April 1	Industry Tour at Atomic Object (123 N Ashley St) from 3:30pm to 5pm We will meet on the Diag in front of the Hatcher library to walk over 3:10pm–3:15pm.	

April 8	Project Work Day <u>Quiz #11: Image Manipulation</u>	
April 15	Project Check-ins – no in-person class	<i>Engagement points due CS Interview Due Code “Resubmissions” by April 16th @ 11:59pm</i>
April 22	Final Project Presentations *Attendance Mandatory*	<i>Final projects due</i>

Online Tools

We will be using a variety of online tools and platforms in EECS 110, described in this section.

Canvas & Announcements

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.

Google Drive

We will place course material, such as lab worksheets + starter code, on Google Drive, accessible via direct links from Canvas.

Class Forum – Piazza

We will use [Piazza](#) to answer questions and post announcements/reminders. Piazza will be a significant source of help and hints for class assignments.

Find our class signup link at: <https://piazza.com/umich/winter2025/eecs110001wn2025>

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. Students are encouraged to answer each others’ questions. This is *not* a curved class, so help each other out! Answers by instructors will typically be provided within 24 hours.

Please do not post your own solutions, code, test cases, or output to the public forum. If you have a specific question about your code/answer, please make a **private post** or stop by office hours.

Gradescope

[Gradescope](#) is an online platform that we will use for submitting assignments and labs. Gradescope is accessible directly or from Canvas.

Programming Environment

We will use the programming environment Google Colab for this course, which can be accessed through Google Drive 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.

Assignments

Weekly Assignments

Each week, you will have several assignments to complete. If you are unable to come to class, you are still responsible for turning in the class period's weekly assignments.

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

Labs

For class periods with labs, you will turn in (as a group) the Colab notebook worked on in class. These are due each Wednesday at 11:59 pm. **Missing the lecture does not excuse you from labs.**

Quizzes

The in-class quizzes are used to determine grades for two separate grade categories: Attendance and Quiz. Attendance credit is given if the student makes a reasonable first attempt before the end of class, as determined by the timestamp. If your first quiz attempt is submitted outside of the time allotted in class, you will not receive attendance credit for that day, but you will still earn points for the Quiz category. See the [Attendance Policy](#) for more information.

The Quiz category grade is determined by the best quiz attempt, graded for accuracy, before the deadline, which is the **Wednesday after class at 11:59 pm**. You will have unlimited attempts to complete the quiz for accuracy before this deadline. The lowest 2 quiz grades will be dropped from the "Quiz" category. **Quiz drops and attendance drops are separate.**

Speaker Questions

~~For classes with guest lectures/panels you are required to individually submit a Canvas Survey with **one question** to ask the guests. These surveys will be due the day before class (Monday) at 11:59 pm, in order to allow instructors time to look over and make a list of the questions submitted before class. If you submit more than one question for a given survey, the extra questions will count as engagement points. Moved to Engagement Points~~

Homework

There will be three homework assignments throughout 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. Homework is due by 11:59 pm on the due date.

CS Interview Assignment

~~Each student must interview someone in the field of computing (e.g., an undergraduate CS student, a CS graduate student, a faculty member, a computing professional). We encourage you to interview someone that you can relate to. The interview should focus on the career path and experiences of the person you are interviewing. After the interview, each student must write two pages (double-spaced) about what they learned from the interview. Moved to Engagement Points~~

Final Project

Each student will work with a team to complete a final project of their choice. This project will have four milestones: project selection, a check-in, final presentation, and code submission. More details will be forthcoming about the requirements for this project.

CS Engagement Points

In order to get full credit in the class, you must earn at least 15 CS Engagement Points throughout the semester. These points can be earned through participating in activities related to the class, as well as other computer science activities. All points must be earned by April 15th. No points will be accepted after this deadline. A full list of activities available for CS Engagement Points may be found in [this document](#).

We will track CS Engagement Points points on Canvas. Some activities will require you to fill out a [Google Form](#) 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 [Acceptable Resources, Collaboration, and the Honor Code](#) below).

Grading

Your grade in this class is determined by your performance on the assignments in the course. We use a “threshold grading” scheme, in which points are assigned based on your understanding of course concepts and ability to apply those concepts to solve engineering problems.

In threshold grading, grades are not curved: your grade depends solely on your own work, regardless of the performance of your peers. Our goal in teaching this class is to provide each student with all the resources necessary to show competency in the course material and therefore earn an A.

Course Grade Breakdown

Category	% of Final Grade	Notes
Attendance	3%	2 Attendance drops
Labs	15%	Lowest 2 grades will be dropped
Speaker Questions	–% (Now part of engagement points)	
Quizzes	2%	Lowest 2 grades will be dropped
Homeworks	40%	
CS Interview	–% (Now part of engagement points)	
Final project	25%	
CS Engagement Points	15%	Each point = 1% of final grade

Grading Scale

Final letter grades are calculated according to the following table:

Numerical Grade (%)	Letter Grade
$99.5 \leq \% \leq 100$	A+
$93 \leq \% < 99.5$	A
$90 \leq \% < 93$	A-

$87 \leq \% < 90$	B+
$83 \leq \% < 87$	B
$80 \leq \% < 83$	B-
$77 \leq \% < 80$	C+
$73 \leq \% < 77$	C
$70 \leq \% < 73$	C-
$67 \leq \% < 70$	D+
$63 \leq \% < 67$	D
$60 \leq \% < 63$	D-
$\% < 60$	E

Deadlines & Late Submission

All assignments must be turned in by 11:59 pm on the date that they are due. They must be submitted electronically using Canvas or Gradescope. **Late submissions will not be accepted unless you use a Late Token.**

Late Day Tokens – Use them wisely!

To accommodate for coinciding deadlines you may have from other courses, or personal unforeseen events such as sickness, **each person has 3 late day tokens total**. Each token provides an automatic extension of 1 calendar day, no questions asked. I will automatically use them on your first late assignments, until you are out of tokens.

- Late days are rounded up to the nearest integer. For example, a submission that is 4 hours late will count as one day late.
- In extreme circumstances, like medical emergencies, additional extensions can be granted. Contact Tamara *before the deadline* to discuss your options.
- For group assignments, all team members must use an individual late day token for each day the assignment is late.

Note that the only method of submission is Canvas/Gradescope. I will not accept assignments by email, for any reason. It is your responsibility to ensure that the assignments have been uploaded successfully by the due date. Assignments not successfully uploaded by the

due date will not be accepted. In rare circumstances, such as a University internet outage, I may institute new policy.

Any changes you make to the homework already submitted on Canvas/Gradescope counts as a *resubmission*, and will use late tokens accordingly. This is non-negotiable.

Grade Return Policy

Our goal is to return all graded assignments to you within one week. However, sometimes things happen and we might get behind a bit (we are busy, too)! You will be notified by Canvas when grades are posted. **Do not post on Piazza asking when grades will be out** unless it has been 3 weeks since the assignment was due.

Regrade Policy

Once the grades for an assignment are published, you will have one week to request regrades on the assignment. You can request a regrade on Gradescope or via email. Regrade requests are for if you think we made a mistake while grading, and can result in gained *or* lost points. All regrade decisions are final.

Resources, Code Citation, Collaboration, and the Honor Code

Learning from your peers, and learning as you teach them, is an excellent way to become comfortable with the skills we cover in EECS 110. However, we also want you to be able to accurately self-assess where you are at in your own skill level. In other words, can you actually do this stuff? Here, we describe the collaboration that is allowed and encouraged in EECS 110, the collaboration that is not allowed, and which online resources are and are not allowed.

If you are at all unsure whether an online resource or collaboration is allowed, **please contact the course staff via Piazza, Office Hours, or email before you do anything**. We will help you determine if what you're thinking of doing is in the spirit of EECS 110.

Acceptable Online Resources

The following are acceptable online resources in EECS 110: course materials on the EECS 110 Canvas page, answers and hints from students and instructors on [Piazza](#) (remember: no sharing code), the [official Python documentation](#), and results from search engine queries. Search engines (e.g., Google, Bing, Yahoo, DuckDuckGo, etc.) may be used to:

- Understand an error message you are getting in your code.
- Resolve a point of confusion about a concept (e.g., how list slicing works).
- Look up a built-in function (e.g., String join() method).
- Find educational tutorials and videos (e.g., W3Schools, GeeksforGeeks, YouTube)

While limited external resource use is encouraged to help you get unstuck, using a significant amount of code copied from the internet or any other source is not.

Citing Online Sources

If you write your code based on an online or analogue source including, but not limited to: a Stack Overflow posting, a forum comment, or a book, **you must cite your source** to designate what code was not wholly written by you. Please add a comment before and *after* the code with a link to or description of the source. **As generative AI do not provide a source for code provided in the chat, we do not consider generative AI (ChatGPT, Maizey, GitHub Copilot, etc) to be a citable source.**

Encouraged Collaboration

We want students to learn from and with each other, and we encourage you to collaborate. We also want to encourage you to reach out and get help when you need it. You are encouraged to:

- Give or receive help in understanding course concepts covered in lecture or lab.
- Help others understand compiler errors or how to debug parts of their code.
- Help them write a line of code to perform a specific part of the task.
 - We are giving you permission to look at another student's code to help them understand what is going on with their code and the problem. You are not allowed to provide them with any pieces of code, and you are not allowed to copy portions of their work to use in your own solution.
- Consult with other students to better understand assignment specifications.
- Discuss general ideas as they relate to the project.

Please include all of your collaborators for each assignment in the assignment header.

Honor Code Violations

The following are considered honor code violations:

- Submitting others' work as your own.
- Copying others' solutions, including solutions from generative artificial intelligence (GenAI) platforms such as ChatGPT or GitHub Copilot.
- Collaborating with others (not in your group, if group assignment) to write your code, such that your solutions are identifiably similar.

- Not following proper pair programming practices when pair programming is required.
- Sharing your code with others to use as a resource when writing their code.
- Sharing test cases with others if they are turned in as part of your solution.
- Making your lab or homework solution code publicly available in any form (e.g. a public GitHub repository or personal website).
- Finding a way to receive attendance credit when you are not in attendance.
- Making a CS Engagement Points submission for an event that you did not really attend, a book/article you did not really read, or a practice problem you did not actually write.

You are still responsible for following these rules even after finishing the course. Students may be nervous about being reported for coincidental similarities between their code and others, but we only report clear cases of academic misconduct (e.g. when there is overwhelming evidence code was copied from another student or online source). You will not be reported for:

- Using starter code provided by course instructors.
- Having the same idea as someone else.
- Receiving similar help/guidance from the same course staff member in office hours.
- Helping another student understand compiler errors or debug part of their code.

If you are retaking the course, you may reuse your own code, presuming it was wholly written by you and/or your partner and not derived from another source, following all the rules outlined here. It is possible for instructors to miss an honor code violation in a previous term, but catch and report it when the code is reused on a course retake.

If you have any questions as to what is allowed, please ask the instructor.

Generative AI In This Course

Generative AI is a technology that can be useful in computing. However, like any subject, you need to learn the basics of computer science and programming before being able to effectively use shortcuts: or you may never gain the skills necessary to write your own code. We can't help you in office hours if you bring us generative AI-created code that you don't understand. We are there to help you, not your code.

We acknowledge that uses of generative AI are becoming hard to avoid, such as when included in internet search results. Therefore, you are permitted to use generative AI as a search engine to ask and answer questions about computer science and programming. However, you are ***not allowed to ask generative AI to write any assignment or assignment portion for you***: including all programming assignments **and written assignments** such as the interview or engagement point responses.

This is an introductory computer science course, and we want you to learn the basics of programming so that later on you will be able to leverage the capabilities of platforms like [U-M GPT](#) or Github Copilot while still understanding your programs. We encourage you to learn more about [U-M's generative AI Guidance](#), including the biases inherent in generative AI and how to protect your data when using these tools.

Accommodations for Students with Disabilities

If you need accommodations for a disability, we are happy to work with you. Some aspects of this course may be modified to facilitate your participation and progress. 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 that SSD will upload to the Accommodate online platform which then notifies us of the needed accommodations. Any information you provide is private and confidential and will be treated as such.

Religious and Cultural Observance

Anyone with religious or cultural observances that coincide with this class or any deadlines (see [Course Schedule](#)) should let the instructor know by email by January 28th. I strongly encourage you to honor your cultural and religious holidays! However, if I do not hear from you by January 28th, I will assume you plan to attend all class meetings.

Diversity, Equity, and Inclusion

The University of Michigan is committed to student learning and the development of the whole student in a diverse and multicultural campus community. We seek to engender a diverse community that is accessible, safe, and inclusive. We value a community that appreciates and learns from our similarities and differences. We pledge our commitment to support the success of all community members. **If you experience anything, directly or indirectly, that goes against this commitment, please talk to your instructor, GSI, an IA... anyone that you feel comfortable talking to. We want to know!** We try hard not to knowingly do or say something that will cause harm or stress to you. Many of us are focused on creating an inclusive classroom. But we are human and sometimes we mess up! If we do, we sincerely hope you will come talk to one of us so that we can see things from your point of view, and we can learn how to improve our class for the next semester.

Student Wellness and Mental Health

As a student, you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce your ability to participate in daily activities. 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.

The University of Michigan is committed to advancing the mental health and well-being of its students. If you or someone you know is feeling overwhelmed, depressed, and/or in need of support, services are available through [Counseling and Psychological Services](#) (“CAPS”) and [UWill](#). You may also find helpful the [well-being resources for students](#) offered through the University’s Office of Student Life.

If you have an urgent matter when CAPS is closed, please call 734-764-8312 (Press 0) to connect with [CAPS After Hours](#).

Basic Needs

If you don’t have stable housing and/or are skipping meals, concerned about spending money on food and/or having difficulties with other basic needs, learn about the [many resources available to support you](#) at the University of Michigan. We can provide you with [immediate food](#), housing and emergency funding support, and access to additional resources.

If I can help you in any way to access the resources above, or if you have any questions about student care resources, please contact me or the [UM Resource Navigators](#) so that we can assist you. I am committed to ensuring that all students have the resources they need to be able to participate in this course.

Updating Your Preferred Name, Name Pronunciation, and Pronouns in U-M Online Tools

If you have not updated your preferred name and pronouns, or if those descriptions of you have since changed, we would greatly appreciate it if you could take a minute to make sure this information is up to date for us.

Updating/setting preferred name and pronoun in Wolverine Access

Go to *Student Business*. Then select *Campus Personal Information*. The option to change your preferred name will be under *Names*. The option to add or change your preferred pronouns will

be under the tab *Gender Identity*. Your preferred name and pronoun will now show up on our course roster and in Canvas, helping us to learn who you are faster!

Updating/setting pronouns in Zoom

When you log into U-M's Zoom, Zoom will display the preferred name that you have listed in Wolverine Access. However, it currently won't bring over your pronoun. To update/set your pronoun in Zoom, go to umich.zoom.us and log in with your U-M Google account. Then go to *Profile* on the left-hand sidebar, and click *Edit* next to your name. Adding your picture and your pronouns will help your instructors (including us!) learn who you are faster!

Recording your name in Canvas

You can record yourself saying your name in Canvas using NameCoach so that we know how to correctly pronounce your name. [Here are instructions on how to record your name in NameCoach](#). Hearing your voices will help us to learn who you are faster, and we appreciate your taking the time to set all this stuff up!