EECS 198: Discover CS

Syllabus

Instructors
Laura Wendlandt, wenlaura@umich.edu
Rada Mihalcea, BBB 3769, mihalcea@umich.edu

TAs
Rebecca Andrews, rband@umich.edu
Natasha Badami, nbadami@umich.edu

Meeting times
Thurs 5-6pm, *EECS 1303*

Office hours
Tuesday, 2-3:30pm, BBB 1695 (Natasha)
Tuesday, 3-4pm, BBB 3769 (Rada)
Thursday, 12:30-2pm, UGLI Basement (Rebecca)
Friday, 1-3pm, BBB 1695 (Laura)

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, as well as visit a local CS company. 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 freshmen women with no formal programming experience.

Website
A detailed schedule, including class topics, assignment due dates and exam dates, will be 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

For this course, you must have a CAEN account. Anyone enrolled in EECS 198 is eligible for one, but it takes a little while to get it set up. Please refer to https://caen.engin.umich.edu/accounts/obtain/ for information on how to set up an account.

You will have to write your programs in Python. You are free to develop your programs on any platform you like, but they must run on the CAEN platform (login.engin.umich.edu). We will grade your programs in the CAEN Linux environment and they must run correctly in this environment.

Course work and grading

Attendance: 11% (1% per class period)
Programming assignments: 40% (4 assignments, 10% each)
Computer science interview: 9%
Final project: 25% (8% for project proposal; 17% for final paper and presentation)
Flex points: 15% (each flex point = 0.5% of final grade)

Attendance
Attendance will be taken each class period. There will be thirteen class periods throughout the semester, and each student is allowed to miss two classes. If you miss more than this, points will be deducted. (If you are forced to miss class for medical reasons or other emergencies, please contact the instructors directly.)

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. No exceptions.

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 women if you are a women student). 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 November 15, the class before Thanksgiving Break.

Final project
Each student will work with a team to complete a final project of their choice. This project will have two milestones: a project proposal (due October 25) and a final paper and poster (due December 6). 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 30 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, December 6. (As noted below, the timeframe of Hour of Code extends beyond this. If you are participating in that, please record your points by December 6, even if you are volunteering after December 6.)

Some of the flex points will be calculated automatically (these include attending office hours and posting on Piazza). To receive credit for the rest of the Flex points, you will need to fill out a Google form (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 section below).

Following is an incomplete list of flex points that can be earned. Potentially, more will be announced throughout the semester.

- Attending office hours (1 point per office hours; up to 5 points total)
- Posting on Piazza (1 point per post; up to 5 points total)
    - These posts can be questions that you have about the material or assignments, or responses to other people's questions, or something cool about computer science that you'd like to share with the class! Each post should be reasonably substantial (at least 50 words) to count for flex points.
- Attending a seminar organized through the Computer Science and Engineering division (5 points per seminar; up to 15 points total)
    - See http://cse.umich.edu/eecs/etc/events/cseevents.html for a list of upcoming seminars.
    - For each seminar that you attend, please write a short description of the seminar (approx. 1 paragraph). Submit this using the Google form available on Canvas.
- Attending the SWE/TBP Engineering Fall Career Fair and talking to at least three companies (10 points)

    - This will take place on September 17-18.
    - See https://www.umcareerfair.org/ for more information; we will also send out more information as we get closer.
    - If you attend the career fair, please write a short summary (a few sentences) for each of the companies that you talked to. Submit this using the Google form available on Canvas.
- Volunteering for Hour of Code 2018 (10 points)
    - This will take place between December 3-9.
    - See https://hourofcode.com/us for more information; we will also send out more information as we get closer.
    - If you volunteer, save your volunteer confirmation e-mail as a pdf to verify your involvement. Submit this using the Google form available on Canvas.
- Attending an event hosted by an approved student organization (5 points per organization; up to 15 points total -- note that to get multiple points for this, you must attend events hosted by different organizations)
    - Approved student organizations: ArborHacks, Code-M, Girls in Electrical Engineering and Computer Science (GEECS), Institute of Electrical and Electronics Engineers (IEEE), Michigan Hackers, Michigan Student Artificial Intelligence Lab (MSAIL), Michigan Data Science Team (MDST), Wolverine Soft, National Society of Black Engineers (NSBE), Women in Science and Engineering (WISE), Society of Women Engineers (SWE), Society of Hispanic Professional Engineers (SHPE), UM::Autonomy, Michigan Autonomous Aerial Vehicles (MAAV), Movement of Underrepresented Sisters in Engineering and Science (MUSES)
    - If the organization that you would like to attend an event for is not on our list of approved student organizations, please contact Rada or Laura ***before the event*** to ask for approval. Please note that we will only approve organizations that are primarily focused on either computer science or diversity in engineering.
    - Once you've attended the event, please write a short description of the event (approx. 1 paragraph). Submit this using the Google form available on Canvas.

Course Schedule

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

September 6	Thinking through problems like a programmer
September 13	Python Lesson #1: If statements, variables
September 18 (Tuesday)	*Programming assignment #1 due*
September 20	Python Lesson #2: Loops, lists

September 25 (Tuesday)	*Programming assignment #2 due*
September 27	Python Lesson #3: Functions, libraries
October 2 (Tuesday)	*Programming assignment #3 due*
October 4	Python Lesson #4: Putting it all together
October 9 (Tuesday)	*Programming assignment #4 due*
October 11	Choose teams for final project; *TBD*
October 18	*TBD*
October 25 - Final project proposal due	*TBD*
November 1	*TBD*
November 8	*TBD*
November 15 - Computer science interview due	*TBD*
November 22	***NO CLASS - THANKSGIVING BREAK***
November 29	*TBD*
December 6 - Flex points and final project due	In-class poster session (to present final projects) -- To accommodate this, and instead of a final exam, class may be two hours long this day.

Note: The programming assignments are intended to prepare you for class, and you should try to complete them before the relevant class period. For example, programming assignment #1 will prepare you for class on September 13. If you're aren't able to finish the assignment by class, you'll have a few more days before it's due.

Policy on Collaboration and Cheating

All cheating will be reported to the Engineering and LSA Honor Councils, 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.

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

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 an 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.
