CS-101 CS for All | Spring 2023 | Course Syllabus

Professor Sarah Morrison-Smith

- **Email:** smorriso@hamilton.edu
- **Office:** SCCT 2014
- **Office Hours:** Mondays 1-2pm, Tuesdays 10-11am, Thursdyas 1-5pm and by appointment. If you are feeling ill or have been recently been exposed to COVID-19, please contact me via email to schedule a Zoom office hours appointment. For COVID safety reasons, only one person is allowed in the office with me at a time. Note that office hours are when I'm available to help students! You are more than welcome to drop by at any point during scheduled office hours without letting me know beforehand, whether to ask a question about code, talk about answers on a quiz, or just chat.

Course Logistics

- **Lectures:** Mon/Wed/Fri 12:00 - 12:50pm, SCCT-G027
- **Discord:** https://discord.gg/pCCxDv69ZP
- **Gradescope:** https://www.gradescope.com/courses/486345, **Entry Code:** NX44B2

Prerequisites

There are no prerequisites for this course.

Course Description

The first course in computer science is an introduction to algorithmic problem-solving using the Python programming language. Topics include primitive data types, mathematical operations, structured programming with conditional and iterative idioms, functional abstraction, and objects. Students apply these skills in writing programs to solve problems in domains across the liberal arts. No previous programming experience necessary.

TA Help

Computer science TAs are available in SCCT 2017 to answer questions about programming, whether for your projects or homework assignments. You should not expect to leave TA hours with all of your problems solved. They are available to you as a source of advice and hints, but their duties do not include writing your code or fixing all of your bugs.

Course Materials

Textbooks & Resources

There are many free, helpful resources online. Some of the most popular are:

- For a book: A Byte of Python at https://python.swaroopch.com/
- For an interactive book: How to Think Like a Computer Scientist: Interactive Edition at https://runestone.academy/ns/books/published//thinkcspy/index.html
- For tutorials and practice: Learn Python at https://www.learnpython.org/
- For a resource: Online documentation for Python 3 at https://docs.python.org/3/

Laptops and Electronics

You should bring a laptop to labs, but not to lectures. If you are unable to do this, let us know. You should not use a phone or any similar device during labs or lectures. If you take notes on a tablet, then you should not be typing on it during class, but only writing (e.g. with a stylus) unless you require accommodation for a disability. If you would like to discuss this restriction, you are always welcome to come talk to me about it.

Software

You'll need access to a computing environment that supports programming in Python using the *integrated development environment* called *Thonny*. You can install from: <https://thonny.org/>

Grading

Your grade will be comprised of the following weighted components:

- **Codelets (10%):** Each day that we have class, we will assign one or two small problems called "codelets". These codelets will be due at 11pm on the day of our following class meeting. (For example, a codelet assigned on Monday would be due the following Wednesday at 11pm). The instructions for each codelet will be posted on Discord along with at least one test input and output. They will be graded right or wrong, with no partial credit. Style will not be part of the grade. The lowest three codelet scores will be dropped.

- **Programming Projects (50%):**. You will be given 2 weeks to complete each of the 6 projects in this class. Each project will require you to write a program larger than those given in the codelet assignments.

- **Weekly Quizzes (10%):** Weekly quizzes will be taken online on your own time on Wednesday each week. Each one has a time limit of 30 minutes, and likely can be completed in less time.

- **Labs (10%):** Weekly labs make up an important part of this course. We will cover material in labs that is not covered in the rest of class and vice versa. Your lab grade will be based on attendance and making productive use of your lab time.

- **Final Exam (20%)** The final exam is a timed, 3-hour written exam given in person on Monday, May 15th from 7:00-10:00pm.

At the end of the semester, I will compute an average using the weights above. All final course grades will be rounded to the nearest whole number. For example, a score of 92.4 rounds to 92, but 92.5 rounds to 93. There will be no grade bumping. There is no extra credit in this course. Your grade in this class is the reflection of mastery of course content, and consistent demonstration of your ability to meet or exceed the grading criteria and rubrics of individual assignments and the exam. Effort will not be factored into your grade. This course will use the Gradescope for all assignment submissions and posting grades.

Course Policies

Discord

All communication for this course happens through the course Discord server. It is your responsibility to check Discord for updates and communication from me. You are encouraged to ask and answer each other's questions, following the guidelines under Honesty & Collaboration. Mention @Sarah Morrison-Smith in any communication requiring my responses. Any personal communication, or communication for which privacy is desired, should be done via email or in one-on-one meetings with me.

Attendance

You are expected to attend every class. You may be excused only for college-sanctioned activities and you must let me know about such absences as soon as you are notified. This includes missing class for religious, athletic, or academic conflicts. If you are sick or have an important appointment at the health or counseling center, please email me before the class and take care of yourself. If you will be absent for a significant period of time, please contact me to work out a way to catch up.

If you must miss a lab for a college-sanctioned activity, you must notify me prior to the lab in question via email or Discord. In this event, do the lab on your own time, and let me know (within a week) on Discord when you have finished it. Late attendance to lab will be counted as half attendance.

Late Assignments and Makeups

No late work will be accepted without prior permission. If you contact the me at least one business day before the due date (unless faced with an emergency) with appropriate requests for extension and/or makeup assignments, you will be given an additional amount of time to make up late assignments equal to the time lost due to the unforeseen circumstance.

Incompletes

Incompletes will be granted for only the most extreme circumstances. To be considered for an incomplete you must 1) let me know at in advance that you are seeking an incomplete, and 2) provide documentation to support the request. This decision is also made in consultation with the Dean of Students.

Re-Grade Requests

If you believe I have made a genuine error when grading your assignment, please submit a grade review request through Gradescope with an explanation describing why the grade received is incorrect, with references to the posted rubric. Grade reviews must be requested within one week of a grade being posted. After this time, no grade will be revisited. In the event of a grade review, the entire assignment will be reviewed. It is possible to receive a lower grade on a reviewed assignment. Similarly, inquiries about missing grades must be made within one week of grades being posted.

Honesty & Collaboration

Hamilton's policy on plagiarism can be found in the Honor Code: https://www.hamilton.edu/student-handbook/studentconduct/honor-code. Cases of plagiarism will be taken seriously and referred to the Honor Court.

For each project, you may work by yourself or with one other student. If you work in a pair, you should submit your project together. You may choose a different partner (or to go solo) on each project separately. Beyond your partner on a project, you may discuss ideas with other students in the class, including helping other students with their code. However, for projects you are never allowed to copy any amount of code from another student or from other sources, including the Internet. Copying of code is a violation of the honor code.

Note that a large portion of your project grade for each project will entail you explaining the complex portions of your program to a teaching assistant. This means you need to understand how all of the code in your project works, so you can explain it.

You may work collaboratively with any number of other students on the Codelets (not programming projects), and are encouraged to do so. You may submit code that you and other students wrote together.

Citation

Academic work almost always builds upon the work of others. In order for me to properly evaluate your projects, you must use citations to acknowledge any outside source of help. All sources besides discussions with the professor and notes you took in class must be cited. You must cite any other outside help, including, but not limited to, discussions with your peers, the course TAs, tutors, and anything from the internet. In short, if you didn't write it all by yourself, you must provide a citation for each instance of collaboration.

Code should be cited in comments, in documents, and in person when you talk about code. Citation should always include the code's author and availability location. It is not sufficient simply to write "worked with person's name" at the top of your work. In order to properly acknowledge others' work, each citation must be placed in your program next to the relevant code and must (1) identify the source, and (2) describe the nature of the help received.

Here are two examples of proper citations:
```
# CITE: Billy Williams
# HELP: Discussed how to use anonymous functions with filter.

# CITE: http://www.math.rutgers.edu/~greenfie/gs2004/euclid.html
# HELP: Source of Euclid's method for determining GCD.
```

Good rules of thumb:

- Never have anyone else (besides your partner) type into your text editor
- Never copy code from another student or the internet
- Cite any collaboration or outside reference you use
- **Ask if you are unsure**

Public Code Policy

You may not post code you write in this class publicly (eg. GitHub, your blog, etc.), even after the semester ends. This is to ensure that current and future students aren't able to find answers. You may provide your code privately to potential employers.

Seeking Help

Accommodations

If you believe you may need accommodation for a disability, contact me privately within the first two weeks of the semester to discuss your specific needs. If you have not already done so, please contact Allen Harrison, Assistant Dean of Students for International Students and Accessibility at 315-859-4021, or via email at aharriso@hamilton.edu. He is responsible for determining reasonable and appropriate accommodations for students with disabilities on a case-by-case basis.

Mental Health and Wellness

If you are feeling isolated, depressed, sad, anxious, angry, or overwhelmed, you aren't alone: we all struggle sometimes. Don't stay silent! Talk to a trusted confidant: a friend, a family member, a professor you trust. The counseling center offers completely confidential and highly professional services, and can be contacted at 315-859-4340. If this seems like a difficult step, contact me. We can talk and call or walk to the counseling center together.

Course Outline

Please note that this is subject to change. Students will be notified of changes in a timely fashion.

Week	Monday	Topic	Project Due Date
00	Jan. 16	Turtle Graphics	
01	Jan. 23	Loops & Strings	
02	Jan. 30	Lists, Advanced Loops	
03	Feb. 6	Audio Manipulation	Monday: Project 0
04	Feb.13	Conditions, Booleans	
05	Feb. 20	Function Definition	Monday: Project 1
06	Feb. 27	Graphs, While Loops	
07	Mar. 6	Natural Language Processing	Monday: Project 2
	Mar. 13	Spring Break!	
	Mar. 20	Spring Break!	
08	Mar. 27	CSVs, Grids	
09	Apr. 3	Advanced Grids	
10	Apr. 10	Image Manipulation	Monday: Project 3
11	Apr. 17	More Images, Dictionaries	
12	Apr. 24	Web Scraping	Monday: Project 4
13	May. 1	Defining Classes	
14	May. 8	Defining Classes	Monday: Project 5