CS65: Introduction to Computer Science
Fall 2022

Instructor: Md Alimoor Reza

Assistant Professor of Computer Science
Department of Mathematics and Computer Science
Drake University
Collier-Scripps Room#323

Contacting course instructor: Communication between you, me, and other students is really important. Help us make this more efficient by following these guidelines:

- For general questions about course material, assignments, alerting me to problems or concerns with grading, questions and issues that are specific to you that involve course logistics or administration, email at **md.reza@drake.edu**.
- For interactive discussions, the instructor will hold open office hours either in person or by video conference. See Office Hours, below.

Logistics: Most of the course content lectures, assignments, labs, etc. will be hosted at https://drake.blackboard.com. Coursework will include attending the class (in-person), and completing individual and collaborative programming assignments, labs, quizzes, a final project, a midterm, and a final exam.

Office hours: The instructor will hold weekly office hours, either in person or online via Zoom. Please see Blackboard for up-to-date times and URLs. If you cannot make office hours, contact the instructor to make a separate appointment.

- **Reza** Tuesday/Wednesday/Thursday 03:30pm-4:30pm (Collier-Scripps#323) and by appointment

Course overview: This is an introductory course to the field of computer science. I will give a broad overview of logical thinking and problem-solving with a high-level programming language (Python). A crucial component in problem-solving is called "algorithm," which is step-by-step instructions to be executed by the machine. Besides algorithms, this course will also focus on other important concepts such as data structures, control structures, debugging, etc. As we will be using a high-level language (Python) to implement the learned concepts, here are some specific programming topics (tentatively and not necessarily in this order):

- Variables and expression
- Recursion
- Files
- Tuples
- Exceptions
- Functions
- Loops
- Lists
- Class
- Conditionals
- Strings
- Dictionaries
- Inheritance

Learning outcome: After successfully taking this course, you will be able to:

- Understand fundamentals of computer science.
- Think and devise step-by-step process for problem solving.
- Understand and implement algorithms with useful data structures using Python programming language.
- Refine programs by debugging and testing to ensure its desired outcome.

Prerequisites: This is an introductory course. Four years of high school mathematics or MATH 20. Logical thinking and basic familiarity with computer and its applications are helpful.

Textbooks and materials: Assigned readings will come from textbook:

- *Think Python 2nd Edition by Allen B. Downey*,
- free copy available online at https://greenteapress.com/wp/think-python-2e.

Grading and requirements:

- *Programming Assignments (25%).* Homework programming activities.
- *Labs (15%).* Implementations of specific concepts (relatively easier than homework assignments).
- *Quizzes (10%). true/false*, *fill in the blanks*, etc.
- *Midterm (20%).* Paper based exam midway through the semester.
- *Final (20%).* Paper based exam by the end of the semester.
- *Final project (10%).* Your proposed group project (2-3 members).

Grading scale: The tentative grading scale for this course would be as follows (subject to change upon Instructor's discretion):

- A (93%-100%)
- A- (90%-92.9%)
- B+ (87%-89.9%)
- B (84%-86.9%)
- B- (80%-83.9%)
- C+ (77%-79.9%)
- C (74%-76.9%)
- C- (70%-73.9%)
- D (60%-69.9%)
- F (0%-59.9%)

Attendance policy: Attendance is mandatory. Students are required to attend all weekly meetings *i.e., Tues 11:00am-12:15pm, Thurs 11:00am-12:15pm* at Collier-Scripps Hall 301.

Deadline policy: I believe it is important for students to keep up with all course material, since the class moves quickly and it is easy to get behind. Our policy on deadlines tries to balance these two competing considerations. If you can't meet the deadline for some valid reason, please contact the Instructor.

Technology requirements: You will likely also want a Python and/or C++ development environment on your local computer. I recommend **Thonny Python IDE for beginners**`https://thonny.org`. There are other many free and commercial options, and you can choose whichever you'd like. For example, see `https://wiki.python.org/moin/IntegratedDevelopmentEnvironments` for a list; popular choices include PyCharm (which is free for academic use), IDLE (a simple IDE that comes built-in to most Python distributions), and XCode (which is free but available only for Macs).

Tutoring help: This semester, the Math and Computer Science department is offering most tutoring services in-person at our lab located in the basement of **Cowles Library**. The department will also provide some online appointments for those who cannot make it to the campus and simply would benefit from online appointments. Tutors cover most introductory mathematics and computer science courses every day. You can find the full list of the available course schedules for in-person tutoring on this spreadsheet.

Academic Integrity Policy: *We take academic integrity very seriously.* You are required to abide by the Drake University policy on academic integrity, as described in the Statement on Academic Dishonesty: Cheating and Plagiarism (`https://www.drake.edu/studentlife/handbook-resources/handbook/academic/`). It is your responsibility to understand these policies. Students agree that by taking this course, papers and source code submitted to us may be subject to textual similarity review, for example by Turnitin.com. These submissions may be included as source documents in reference databases solely for the purpose of detecting plagiarism of such papers or codes.

Mask policy for Covid-19 situation: As we will be meeting in person, students are required to cover your nose and mouth with protective face mask. Here is a statement from Drake administration to highlight its importance – *"Students who do not abide by the mask mandate are subject to discipline via the Code of Student Conduct. As part of that guiding document, if a student refuses to wear a mask correctly in class after the instructor asks the student to do so (pg. 11, K.13) the instructor may direct the student to leave the classroom. The instructor will also refer the student to the Dean of Students office."*

Accommodation for students with disabilities: Drake University is committed to providing equitable access to learning opportunities for all students. The Disability Services office (107 Old Main) collaborates with students who have disabilities to provide and/or arrange reasonable accommodations. If you have, or think you may have, a disability (e.g., mental health, attentional, learning, autism spectrum disorders, chronic health, traumatic brain injury and concussions, vision, hearing, mobility, or speech impairments), please contact:

- Michelle Laughlin, Student Disability Services Coordinator (x1835)
- michelle.laughlin@drake.edu

to arrange a confidential discussion regarding equitable access and reasonable accommodations.

Holiday Observance: If you miss class because of a holiday or observance, you can fill out the form to automatically notify me (faculty). You can find the form on the `https://www.drake.edu/diversity/initiatives` for Initiatives and Programs, or click here to directly access the `https://drake.qualtrics.com/jfe/form/SV_d5qfVUKtuTQdg7b`.