CS112-LC - Introduction to Programming

Simmons University

Spring 2019 / January 22 – May 8
Class Room Location: E114
Class Day/Time: Fridays, 12:00AM – 1:50 PM
Lab Day/Time: Tuesdays, 3-4:20 PM

Instructor: Amber Stubbs, PhD
Emails: stubbs@simmons.edu
Office Hours: Tuesdays and Wednesdays, 11-12, or by appointment
Office location: P212C (second floor of the Palace Road building, opposite end of the building from Public Safety)

Course Description

Introduces computer science and programming using a high-level programming language (Python). Teaches program design in the context of contemporary practices both object oriented and procedural. Presents fundamental computer science topics through initiation and design of programs. Students learn to think logically and to apply this thinking to debugging computer programs.

Course Objectives

Upon completion of this course, students will be able to:

- Understand the fundamental concepts and theory of computing and their application to solving real world problems
- Think abstractly, logically, clearly, and critically
- Demonstrate skills in quantitative reasoning and analysis skills beyond basic math competency
- Use basic Python skills, including variables, if/else statements, loops, functions, and objects, to write programs and develop code solutions to problems

Course Methods

We will meet once a week for lecture. We will be covering a substantial amount of material each class and it is expected that you will read the assigned readings before the lecture and do any pre-lesson assignments. This preview of the material will help you focus on those areas during the lecture that are not clear to you. I expect classes to be active learning experiences where is student is expected to participate and contribute to the learning experience for themselves and the class. The best way to learn how to program is to practice it, so there will be substantial weekly programming assignments.

Required Materials

- USB disk (64 GB)
- Book: Starting out with Python, 4th Edition By Tony Gaddis. ISBN: 9780134444321
- Software (download and installation instructions are on Moodle):
    - Python 3
    - Ren'Py
    - Atom

Assessment of Work

Course learning objectives will be assessed, primarily, through project assignments undertaken in the course, as well as other class activities. Assignment details will be provided during the semester. Your work will be assessed in the following ways:

Assessment summary:

Homework/Labs	30%
In-class quizzes	10%
Midterm Project	15%
Final project	15%
Midterm exam	15%
Final Exam	15%

Grade Scale

Letter grade	**Number grade**
A	93-100
A-	90-92
B+	87-89
B	83-86
B-	80-82
C+	77-79
C	73-76
C-	70-72
D+	67-69

Letter grade	Number grade
D	60-66
F	Below 60

Class Policies

Attendance and tardiness policy: Regular attendance is essential to the successful completion of this course, and if you miss more than TWO classes over the course of the semester, for whatever reason, your final grade will be impacted. Things sometimes come up and you just cannot attend class; you need not explain to us why you are absent or provide a doctor's note, but for each absence over two, you will incur a penalty to your final grade.

If you miss class for any reason, it is your responsibility to find out what we did in class or what you missed from another student; be sure also to keep up with the syllabus and assignments. If you have a question, however, about something you were told by another student, but do not understand, we are happy to clarify. It is also important that you arrive to class on time and stay the whole class. You will receive a TARDY for each class you arrive late or leave early. THREE tardies equal ONE absence.

Syllabus: We reserve the right to alter course requirements, assignments, and/or lab exercises based on new materials or programs. In the case of such alterations, we will notify you of any changes.

Email: You can usually expect a response from us relatively quickly (usually within 24-48 hours); if you haven't heard back from either of us within 48 hours (excluding weekends), feel free to email us a reminder. Please use your Simmons email address when you contact us (and check it often) and always make sure you email us both. Additionally, you will be responsible for any important information sent to your email address.

Smartphones & Computers: When in class, we expect you to be attentive and engaged in class discussions and activities. While we do not require you to turn off your phones or close your computers, we do expect you to use your digital devices judiciously and for class purposes, only. If we see you texting during class or on social media (unless asked to do so during a specific class activity), we will ask you to turn off your devices.

Late homework: Late homework will incur a full letter grade reduction for each day it is late (beginning directly after the time due). Weekend days are included. After three days, we will automatically give a zero for an assignment that hasn't been turned in without prior discussion.

Lab Work: Labs are assigned during class and are due before the next class session. Labs are graded on a scale of 0-4:

- 4: All the work is done correctly, possibly with a few minor errors
- 3: The majority of the work is done correctly, with some major errors
- 2: Some work is done correctly, but there are some serious flaws

- 1: The majority of this work is wrong or left blank
- 0: No work done

Special Accommodations: If you need special accommodations based on disability, please contact one of us privately at the beginning of the semester to discuss your specific needs and be sure to turn in a Student Academic Accommodation Request (SAAR) form to us. To establish eligibility, coordinate reasonable accommodations in a timely fashion, and obtain the necessary form to give to us, please contact the Disability Services (DS) office, which is located on the third floor of the Palace Road Building, Suite P304 (617-521-2474) / http://www.simmons.edu/student-life/student-services/disability-services at the beginning of the semester. Accommodations can only be provided to students who have an official SAAR form.

Academic Integrity: Students must uphold the Simmons College policies regarding academic integrity. For more information on what this entails, please see: https://www.simmons.edu/student-life/handbook/rights-responsibilities/honor-system. You must pursue your academic work honestly and be accountable for all submitted assignments. Three fundamental principles must be followed at all times: 1) all work submitted should be your own – even DRAFTS! 2) when using the work or ideas of others, including fellow students, give full credit through accurate citations; and 3) if you are uncertain about what is appropriate for an assignment, *ask for clarification*. No grade is important enough to justify academic misconduct. Plagiarism means using someone else's words, opinions, or factual information without giving the person credit. Faculty are required to report any suspected instances of academic dishonesty to the College.

A note about plagiarizing and code **for this course**:

- Looking at working code can be an excellent way to learn about programming
- The Internet has a lot of code on it
- Just because code is on the Internet doesn't mean that you can use it without attribution
- You are encouraged to look for solutions to basic programming questions on the Internet, **however**, you must include a comment in your code that includes the URL where you found the code.

Diversity and Inclusion: It is of utmost importance that each student feel safe and comfortable to be and express themselves in this course. Some in-class conversations and work produced for this course may reflect sensitive political, social, religious, and/or other material. Therefore, please treat everyone in class with respect, dignity, and compassion.

Course Schedule:

Please note: this schedule is tentative and subject to chage.

Since class is on Fridays and labs are on Tuesdays, the general schedule will be that readings for the week should be done by Friday. On Fridays we will introduce new topics, then on the following Tuesday we will do a quiz on the materials learned on Friday, followed by a lab assignment. Labs will be assigned on Tuesday and due the following Tuesday before lab.

Also note that the book we are using has a “Turtle graphics” section at the end of most chapters – we won’t be doing anything with Turtle graphics, so you can skip those parts

Date	**Class/Lab Topics**
Lab 0 (1/22)	Software installation and setup
Week 1 (1/25, 1/29)	Chapters 1-2, Intro to programming, variables, input, output
Week 2 (2/1, 2/5)	Chapter 3, Decision structures and boolean logic
Week 3 (2/8,2/12)	Chapter 4, while loops
Week 4 (2/15, 2/19)	Chapter 4 continued, for loops, **midterm project assigned**
Week 5 (2/22, 2/26)	Chapter 5, functions
Week 6 (3/1)	Work on midterm project
3/4 - 3/8	Spring break!
Week 6.5 (3/12)	Midterm exam, **midterm project due**
Week 8 (3/15, 3/19)	Chapter 5 continued, functions
Week 9 (3/22, 3/26)	Dragon realm, work in groups
Week 10 (3/29, 4/2)	Chapter 6, files
Week 11 (4/5, 4/9)	Chapter 7, lists, **final project assigned**
Week 12 (4/12, 4/16)	Chapter 9, Dictionaries
Week 13 (4/19, 4/23)	Chapter 10, classes and objects
Week 14 (4/26, 4/30)	Chapter 10 continued, work on final project
Week 15 (5/3)	Work on final project (no class 5/7 – academic Monday)
5/9, 6pm	Final project due
TBA	Final exam