CSC 111: Introduction to Computer Science through Programming

SEMESTER	Spring 2017
INSTRUCTOR	Prof. Sara Mathieson, ssheehan@smith.edu, 355 Ford Hall
CLASS MEETING	Section 01: Mon/Wed/Fri, 11am-12:10pm, Ford 240 Section 02: Mon/Wed/Fri, 9:10am-10:20am, Seelye 201
LAB (FORD 241)	Section 01: Wed, 3-4:50pm Section 02: Thurs, 1-2:50pm Section 03: Thurs, 3-4:50pm Section 04: Wed, 1:10-3pm
WEBSITE	http://www.cs.smith.edu/∼ssheehan/spring17/csc111/home.html username: csc111, password: spring17

COURSE STAFF

- Lab Instructor: David Marshall
- Teaching Assistants: Alice Yang, Artemis Metaxa-Kakavouli, Eleanor Ewing, Farida Sabry, Riley Mancuso, Val McCulloch, Youyou Tian, Zoe Kendall
- Reader: Farida Sabry
- Graders: TBD

PREREQUISITES   None

COURSE DESCRIPTION & GOALS

This is an introductory computer science course that aims to give students a solid foundation in computational thinking. We will be using Python, and no prior programming experience will be assumed. By the end of this course, students should feel comfortable with useful code structures (variables, loops, conditionals, functions, classes), as well as good coding practices such as documentation, modularity, testing, and debugging. In addition, students should feel confident in learning other programming languages afterwards, and be able to translate computer science principles into a new language. Finally, through applications, I hope to instill an appreciation of the many ways in which computer science is tied to other disciplines.

This course will have weekly homework and lab assignments in Python, although there will occasionally be components that involve written work or short quizzes on Moodle. All homework and labs will be submitted through Moodle. Please plan to bring a laptop computer to both lab and lecture. If you do not have your own computer, please contact me and we will set you up with a computer through the laptop loan program. This is a 5 credit course, so students should budget 15 hours/week (roughly 5 hours in class and 10 hours outside of class).

TEXTBOOK   **"Python Programming: an Introduction to Computer Science"**, 2nd edition, by John Zelle

SOFTWARE   **Python 3**: https://www.python.org/downloads/ (latest version is 3.6.0, or any version > 3.0)

TOPICS AND SKILLS

- What is computer science?
- Variables and expressions
- Functions and argument passing
- Loops and conditionals
- Ints, floats, strings, booleans
- Lists
- Python style and documentation
- Testing and debugging
- Reading and writing files
- Sets and dictionaries
- Recursion
- Classes and objects

RESOURCES   **Spinelli Center for Quantitative Learning**: http://www.smith.edu/qlc/

Disability Services: http://www.smith.edu/ods/ (I am happy to meet to discuss accommodation letters or provide more information about accommodation options.)

| ONLINE DISCUSSION | We will be using **Piazza** for online class discussion, homework help, announcements, clarifications, etc. Our class page is: https://piazza.com/smith/spring2017/csc111/home. |

COURSE POLICIES

1. **Piazza**: all questions about course material and logistics should be posted publicly on Piazza. Please avoid private Piazza posts; if it's a non-content related matter, send me an email.

2. **Email**: only email me for non-content issues unique to you (allow 24 hours for a response).

3. **Posting code**: do not email me or post a long blocks of code on Piazza. If you can distill the problem to 1-2 lines of code and an error message, post on Piazza.

4. **Late work**: late work will not be accepted. However, the lowest homework score and lowest lab score will be dropped. The only exceptions to this policy are:

   - An accommodations letter from the ODS
   - A note or email from a Class Dean
   - A note or email from Health Services

5. **Individual meetings**: if you are unable to make my office hours or the TA office hours, I can occasionally do individual or small-group meetings as my schedule permits. Please use this sparingly - due to the class size I cannot meet with students one-on-one very frequently.

6. **Attendance**: you MUST attend the lab section you are registered for, and attendance will be taken. For lecture, patterns of missed classes will significantly affect your participation grade. Please avoid coming in late to lecture/lab and packing up early, as it distracts other students.

7. **Class time questions**: absolutely no homework questions before/during/after class; please come to office hours or TA hours instead. The reason is that these questions remove the focus from the current material we are learning in class. Avoid questions before class, since even a few questions can prevent me from setting up my slides and class activities.

8. **Electronic devices**: computers may be used in class as long as they are directed towards course material (taking notes, in-class lab, etc). Phones should not be used in class or lab.

9. **Checking work**: please do not ask me to check work to see if it will receive full credit.

10. **Random partners**: for labs, you will be paired with a random partner. The rationale behind this decision it to remove the temptation to work with the same partner repeatedly, give students realistic collaboration experiences, and help foster a sense of course community.

HONOR CODE

Collaboration is encouraged in this course. However, code and written work should be produced and *understood* by each individual student. As a rule of thumb, you should never be copying and pasting code, from the internet or otherwise. If you to use something from the internet or another source (not copied directly, but used as inspiration), it must be clearly cited. If you worked with or received help from another student, you should list them as a collaborator at the top of your assignment. We will be talking more about the honor code as the semester goes on, and if you have any questions or are unsure if what you are doing is okay, email me right away. In general, for each assignment, cite your sources (classmates, books, and online resources), as per the Smith College honor code:

"Smith College expects all students to be honest and committed to the principles of academic and intellectual integrity in their preparation and submission of course work and examinations. All submitted work of any kind must be the original work of the student who must cite all the sources used in its preparation."

GRADING

- Homeworks: 40%
- Labs: 10%
- Midterm exam (taken in the library): 15%
- Final project (extended homework assignment): 10%
- Final exam (self-scheduled): 15%
- Participation (including in-class Q&A, labs, and Piazza): 10%