CMPS 5P: Introduction to Programming in Python
Fall 2016

Basic Information

Lectures: Mon/Wed/Fri 2:40–3:45 PM in Humanities Lecture Hall
Sections: Mon: 9–10:30 AM, 10:30–noon, noon–1:30 PM
          Tue: 1:30–3:00 PM, 3:00–4:30 PM, 4:30–6:00 PM, 6:00–7:30 PM
          Wed: 9:00–10:30 AM, 10:30–noon, noon–1:30 PM
Instructor: Professor Ethan Miller (elm)
            Office: 365 Engineering 2
            Hours: Mon 4:00–5:30 PM and Wed 10:00–11:00 AM
TAs: Oceane Bel (obel), Arnab Borah (aborah),
      Jennifer Sawyer (jsawyer), Shih-Ming Wang (swang150)
Staff email: cmps5p-staff
Textbook: Think Python: How to Think Like a Computer Scientist (Downey)
Course home page: https://classes.soe.ucsc.edu/cmps005p/Fall16/
Course forum: https://piazza.com/ucsc/fall2016/cmps5p
NOTE: All email addresses are @ucsc.edu.

Course Overview

The goal for students in this class is to learn the basics of computer programming and debugging using the
Python language. Students will learn about common data types (integers, floating point numbers, strings),
variables and assignments, and control flow (conditionals, loops, iterators, and function calls). Students
will also learn techniques of top-down design and modular code. Specific topics to be covered include:

- Introduction: What’s a program? How are results given to the user?
- Variables and expressions
- Functions
- Control flow: conditional expressions, iteration and looping
- Strings
- Lists, dictionaries and sets
- Modules
- Files
- When things go wrong: debugging and exceptions
- The mechanics of programming: editors, the command line, and source code management
- Applications, such as simulation, document analysis, graphical interfaces, and encryption

Prerequisites

There are no prerequisites for this class, other than intellectual curiosity (very important!), knowledge of
math at the pre-calculus level, and a desire to learn how to program. If you’ve had significant formal
programming experience at the college level, this may be the wrong class for you, even if you do want to
learn Python.
Textbook

We’ll be using the second edition of *Think Python: How to Think Like a Computer Scientist* (Allen Downey) as the textbook for this class. This book should be available at the campus bookstore and online (Amazon, etc.); you can get either a hardcopy or the electronic version. Make sure you get the second edition of the text, ISBN-13 978-1-491-93936-9, since we’ll be using Python 3.

Online Resources

Most of the material in this class will be available online at https://classes.soe.ucsc.edu/cmps005p/Fall16/. However, much of the material will only be accessible on-campus or via the campus VPN (http://vpn.ucsc.edu/). Online discussions will be hosted on Piazza; course staff will monitor the forum, and will answer questions if possible. Students are also encouraged to contribute to the discussion.

Assignments, Exams & Grading

Exams

There will be an in-class midterm on Wednesday, November 2nd. The final exam will be held on Thursday, December 8th from 4–7 PM, as listed in the Fall 2016 Final Examination Schedule. You must take each exam at the scheduled time unless you are seriously ill or have an unexpected family emergency. You must let the professor know by email or text message before the exam’s scheduled start unless you are physically unable to send a message, and you must provide a doctor’s note or letter from the funeral home before you can make up the exam. There are no exceptions to this policy.

Assignments

There will be 7–10 assignments over the course of the quarter, approximately one per week. Assignments will typically involve programming, though they may involve other activities as well. Assignments are usually due on Wednesdays at 2:00 PM (please see the specific assignment for any variations), and are turned in electronically. Grades and comments will be returned online, usually within 7–10 days of the due date. Assignments may have different weights in your final grade; points available for each assignment determine the weight.

Rather than approve extensions on a case-by-case basis, each student has 3 (three) “grace days”, each of which may be used, no explanation necessary, to extend the due date of a (single) assignment by 24 hours. Grace days need not all be used on the same assignment—you can use them all on a single assignment, or use one each for three different assignments (or any other combination). However, you can’t use half a grace day on an assignment. Once you’ve used them up, late assignments will be penalized 25% of the available points per full or partial day late. Use your grace days wisely!

All assignments must be turned in no later than Friday, December 3rd at 8:00 PM (the last day of the quarter); grace days cannot extend this deadline.

Class Notes

We’ve found that taking written notes, from lecture, section, and/or the textbook, is very beneficial. So, you may optionally turn (electronically) in your written or typed notes each week, and receive credit for them in your overall grade. Notes must be in your own words—copying verbatim from class, textbooks, other students, or the Internet is plagiarism. You may only submit notes from the current week’s material; material from previous weeks will not be accepted.
Turning in notes has two advantages. First, we’ll count the higher of your notes grade or your exam average for 6% of your final grade. Second, you may bring a single-sided “cheat sheet” to the midterm and final, but the sheet may only include material from the notes you turned in in the week that the material was covered in lecture or section.

Grading

Grades in the class will be assigned as follows:

- Programming assignments: 48%
- Class notes: 6%
- Midterm: 12%
- Final: 34%

To pass the class, you must do the following:

- Have at least a 50% (weighted) average on your exams. A low grade on one exam can be countered by a good grade on the other exam.
- Have at least a 50% (weighted) average on your programming assignments.
- Turn in all of the programming assignments. If you miss an assignment due date and have no grace days left, you still have to turn in a reasonable attempt at the assignment, though you will receive a maximum of 5 points for it.

Note that a 50% average on both exams and assignments is not sufficient to pass—a 51% on exams and 53% on assignments will likely result in a failing grade.

We expect to use the following approximate ranges for overall scores. Individual assignments may be curved, but there is no guarantee of this.

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Accommodations for Students with Disabilities

If you qualify for classroom accommodations because of a disability, please get an Accommodation Authorization from the Disability Resource Center (DRC) and hand it to Prof. Miller in person, either after class or during office hours. This must be done by the end of lecture on Friday, October 7th. For more information on the requirements and/or process, contact the DRC at 831-459-2089 (voice), 831-459-4806 (TTY), or at http://drc.ucsc.edu/.

Attendance

You’re expected to attend lecture and one lab section per week. The lab sections in a given week will all cover the same material, so there’s no need to attend more than one lab section. We won’t take attendance at lecture or lab section, except as needed during the first week of classes. We strongly recommend attending every lecture, and welcome suggestions on how we can improve the lectures to help you learn better.

Getting Help

You’re strongly encouraged to seek help if you need it. You can do this by going to section, office hours, reading the course forum, or by email. Office hours are optional, but highly recommended if you’re
having any difficulty understanding the material, doing the homework assignments, or working on the term project. More in-depth discussions of course-related topics are also appropriate (and encouraged) during office hours. You're welcome to use the course forum and send email whenever you want, but please arrange any meetings outside of office hours in advance.

We encourage you to use Piazza to post general questions. Asking things like “how does this concept work?” or “can someone help install this Python editor” are fine. Questions such as “can someone post sample code for Assignment 2” are not acceptable. Please ask such questions during office hours (preferable) or via email.

Email to the course staff (cmps5p-staff) will be answered if possible. The best kinds of questions to ask via email are those that require short answers. Questions like “why doesn’t my program work?” and “please explain this concept to me” are much more difficult to answer via email, and are best asked and answered in person at office hours. We won’t debug your code without you physically present: we’d like to explain the process to you and help you learn, so please don’t send us your program by email and ask for help fixing it. Instead, come to office hours, where we’ll be happy to help you. Please remember, too, that email replies may take up to one business day.

Prof. Miller’s office hours are listed on the syllabus; other office hours are listed online. These hours can be changed; if you’d like to see office hours at a different time, please let us know.

As an added incentive, Prof. Miller has an espresso machine in his office; free shots of espresso are available to students visiting during office hours.

Academic Honesty

By taking this class, you agree to abide by the following rules on collaboration.1 Example situations clarifying these rules are posted at https://classes.soe.ucsc.edu/cmps005p/Fall16/academic_honesty.php. You must sign a separate sheet of paper acknowledging that you’ve read and understand these rules. This sheet is available online, and is due by the end of the Friday, September 30th lecture to remain enrolled.

- You may not work on your assignment with anyone.
- You may not show your code or design to anyone.
- You may not have anyone other than the professor or TAs “walk you through” an assignment, describe a solution in detail, or sit with you as you work on it. You may not provide such assistance to anyone, either. This includes friends, family members, tutors, current & former students, paid consultants, and random people on the Internet.
- You may not post code or questions from your project online to ask others for help. This means anywhere online, including Piazza (ask us in person!), independent message boards (e.g., StackExchange) and file sharing sites.
- You must cite all sources of aid (other than course staff, course textbook, course website, and material on python.org and jetbrains.com) in anything you submit, even if the source is considered acceptable.

If you’re caught at any time violating these rules (even after the assignment or exam has been returned or the quarter has ended), you will fail the course and the incident will be reported to the School of Engineering and to your Provost.

The bottom line: be honest!

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1Adapted from CSE143 at the University of Washington.