

CMPS 5P: Introduction to Programming in Python

Fall 2008

Basic Information

Lectures:	Tuesday & Thursday 2:00–3:45 PM in 327 Kresge
Labs (in Baskin 105):	Mon 9:30–11 AM; Tue 12–1:30 PM; Wed 2–3:30 PM; Thu 6–7:30 PM
Instructor:	Professor Ethan Miller (e1m (a) cs.ucsc.edu) Office: 365 Engineering 2 Hours: Wed 4–5 PM and Thu 4–5 PM
TA:	Aleatha Parker-Wood (aleatha (a) cs.ucsc.edu) Office: TBD Hours: Mon 2–4 PM
Reader / tutors:	Michael Cutter (mcutter (a) ucsc.edu) Colin Pollock (cpollock (a) ucsc.edu)
Staff email	cmps5p-staff (a) cs.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 is a program? How is a program edited and run? How are results given to the user? What is this “command line” thing?
- Variables and expressions
- Functions
- Interfaces
- Control flow: conditional expressions, iteration and looping, and recursion.
- Debugging
- Complex data types: strings, tuples, lists, and dictionaries.
- Files
- Exceptions
- Classes
- Simple data structures

Prerequisites

There are no prerequisites for this class, other than intellectual curiosity and a desire to learn how to program. However, if you’ve had formal programming experience at the college level, this might be the wrong class for you, even if you *do* want to learn Python. If this description applies to you, you’re encouraged to talk with Prof. Miller to see if you’ll benefit from the class.

Textbook

We will be using *Think Python: An Introduction to Software Design* (Allen Downey, Green Tea Press) as the textbook for this class. This book is available online (for free), and can also be purchased in printed form; please see the course Web site for details.

Online Resources

Most of the material in this class will be available online at <http://moodle.soe.ucsc.edu/>. You **must** set up an account on Moodle by October 1st. You'll need your `ucsc.edu` email account to create a Moodle account, but the account is otherwise free. We strongly recommend that you set up an account now even if you're not sure you're taking the class, since you can always "turn off" the account if you don't need it.

Assignments, Exams & Grading

Exams

There will be an in-class midterm in early November and a final during final exam week.

Quizzes

There will be an in-class quiz about every 2–3 classes to ensure that you're keeping up with the material. The quiz will have a few questions, and should take no longer than 15 minutes. Quizzes will not be announced in advance; however, your quiz grade will exclude your lowest-scoring quiz, so you can miss one quiz without penalty.

Assignments

We expect to assign 6–8 programming assignments over the course of the quarter. Each program will be due a week after it is assigned. Programs will be turned in online using Moodle, and grades and comments will be available via Moodle within ten days of the due date.

Programming assignments must be turned in on time. Rather than approve extensions on a case-by-case basis, we are giving each student 4 "grace days" that you may use, no explanation necessary, to extend the due date of an assignment. Grace days need not all be used on the same assignment—you can use all four on a single assignment, or use one each for four different assignments (or any other combination). Once you've used them up, though, *late assignments will receive a grade of zero*. Period. Use your grace days wisely.

Grading

Grades in the class will be assigned as follows:

- Programming assignments: 48%
- Quizzes: 10%
- Midterm: 15%
- Final: 25%
- Class participation: 2%

To pass the class, you must do the following:

- Have at least a 50% 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% 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 zero 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.

You do *not* have to take all of the quizzes to pass the class. Your quiz average will be calculated by dropping your lowest quiz score and averaging the remainder. A quiz you don't take is a zero, so your grade will suffer if you miss too many quizzes. However, quizzes make up only 10% of your grade, so it's not the end of the world if you miss more than one quiz.

Your class participation grade is based on several factors: actually participating in lecture (asking questions, etc.), visiting office hours, and participating in lab sections. It's only 2% of your grade, so it won't determine whether you pass or fail, but it's how we decide whether to give you an A- or B+ if you're right on the border.

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

- A: 89–100%
- B: 79–89%
- C: 69–79%
- D: 60–69%
- F: below 60%

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 submit it to the professor or TA in person outside of class (*e.g.*, office hours) **within the first two weeks of the quarter**. For more information on the requirements and/or process, contact DRC at 459-2089 (voice), 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, but you're welcome to attend more than one if you think you'll benefit from it.

We won't take attendance at lecture or lab section but, as noted above, there will be unannounced quizzes at lecture. Needless to say, we recommend attending every lecture, and not just because of the quizzes. We hope that the lecture helps you better understand the material, and would appreciate any feedback on how we can improve the class (this is the first time that CMPS 5P has been taught).

Office hours are, of course, entirely optional, though it's a good time to talk with someone one-on-one and get help. It's also a good opportunity to discuss other topics that may only be tangentially related to the class. Many students find that discussions in office hours are highly informative and interesting, and it usually helps faculty members write you better recommendations for jobs and graduate school.

Getting Help

You're *strongly encouraged* to seek help if you need it. You can do this by going to office hours, reading the course forum on Moodle, 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 the course web forum 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 (`cmeps5p-staff (a) cs.ucsc.edu`) 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. Please keep in mind, too, that email replies may take several hours, depending on when the course staff read and respond to email.

Professor and TA office hours are listed at the start of the syllabus, and tutor office hours will be set during the first week of the quarter. These hours are subject to change; if you would like to see office hours at a different time, please let us know.

Academic Honesty: Collaboration vs. Cheating

You are expected to conduct yourself as a person of integrity—you are expected to adhere to the highest standards of academic integrity. This means that plagiarism in any form is completely unacceptable.

Plagiarism will be assumed, until disproved, on work that is essentially the same as that of other students. This includes identically incorrect, off-the-wall, and highly unusual duplicate answers where the probability of a sheer coincidence is extremely unlikely. All parties to this unacceptable collaboration will receive the same (zero) score. In the case of programs, reordering program code, moving files around, changing comments, or simply renaming variables does *not* make two programs different. Remember—a zero score on either exam or on the term project is grounds for failing the course. Those caught cheating will, in addition to a zero score on the assignment or exam, have a letter sent to their department, the School of Engineering, and their college provost and academic preceptor. We reserve the right to take stronger action, such as assigning a class grade of F, should the situation warrant it.

You may discuss classwork with your friends, but you are expected to abide by the *Simpsons rule*¹—the only thing you may bring to such a discussion is you, and you may not take written notes away from the meeting. You may discuss concepts covered in class or assigned in the homework, but you may not discuss details of the homework. Looking at, modifying, or copying each other’s files or solutions is *strictly forbidden*. If you are unsure of what is and is not allowed by this policy, please talk to Prof. Miller *before* doing something that might be considered cheating.

¹The *Simpsons* rule states that following any class-related discussion, you must take a break for at least half an hour before doing further work on this class. Watching a TV show such as *The Simpsons*, *Futurama*, or *Family Guy* satisfies this rule. Reading something (inane or otherwise) unrelated to CMPS 5P also qualifies. See Prof. Miller if you’d like some suggestions for non-computer science reading material.