

Computer Science 110-03
Introduction to Computer Science I
Fall 2011
MWF 2:15–3:20, HR 235

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Class Website: <http://cs.usfca.edu/~peter/cs110>

Class Mailing List: The earlier instructions for joining the list were incorrect. Please send your *preferred* email address to the instructor, and he'll add you to the list.

Once you're a member of the list you can also post messages by sending email to user cs110-03 in the domain cs.usfca.edu.

Text: Allen Downey, *Python for Software Design: How to Think Like a Computer Scientist*, Cambridge University Press, 2009.

The manuscript for this book is freely available online at <http://greenteapress.com/thinkpython/thinkpython.html>.

This text is not available in the bookstore. If you want a paper copy, you should order the book online.

The *Python 2.6 Quick Reference* may also be useful. It's available online at <http://rgruet.free.fr/PQR26/PQR2.6.html>

Prerequisites: None.

Coursework and Grades: I will base your final grade on 10 lab assignments, 5 programming assignments, 2 midterms, and a final exam, weighted as follows.

Lab assignments	10 @ 1.5% each	15%
Programs 1 and 2	6% each	12%
Programs 3, 4, and 5	8% each	24%
Midterms	2 @ 12% each	24%
Final Exam		25%
Total		100%

I will assign grades on a straight scale. *Roughly*, 90-100% is an *A*, 80-89% is a *B*, 65-79% is a *C*, 55-64% is a *D*, and 0-54% is an *F*.

Lab Assignments: Lab assignments may involve coding and/or written work. We'll typically start working on them in class, but they will often require additional work outside of class. They are *due at 2 pm* on the due dates listed in the following course outline. Code should be copied to the appropriate subdirectory of your CS 110 SVN directory. (We'll discuss SVN in class.) Printouts of code and written work should be turned in to my mailbox in the computer science office by *5 pm* on the due date.

There will be 12 lab assignments. Only your best 10 scores will be counted in the calculation of your final average. Late assignments will *not* be accepted.

Programs: Due dates for the programming assignments are listed in the course outline. Complete, documented copies of your program source code should be copied to the appropriate subdirectory of your CS 110 SVN directory by *2 pm* on the due date. You should also put a printed copy of your source code in my mailbox in Harney 545 by *5 pm* on the due date. Guidelines for grading will be passed out with the assignments. Late programs will *not* be accepted. If you cannot finish an assignment, you should turn in what you were able to complete for partial credit.

Midterms: The midterms will be given in class on *Monday, October 3*, and *Wednesday, November 16*.

Final Exam: The final exam will be comprehensive. It is scheduled for *3-5 on Monday, December 12*.

Attendance and Lateness: Attendance is not required. However, you are responsible for *all* of the material covered in class, regardless of whether it is covered in the texts. Being late to class is unacceptable. You may have one unexcused late arrival. Subsequent late arrivals may affect your grade.

Academic Honesty: As a Jesuit institution committed to *cura personalis* — the care and education of the whole person — USF has an obligation to embody and foster the values of honesty and integrity. USF upholds the standards of honesty and integrity from all members of the academic community. All students are expected to know and adhere to the University's Honor Code. You can find the full text of the code online at <http://www.usfca.edu/fogcutter>.

From a practical standpoint it is fine for you to *discuss* lab assignments and programs with your classmates. Any other collaboration is unacceptable. In particular, copying another person's work is unacceptable. Students who violate these rules will receive an *F* in the course. Repeat violators may be subject to more severe penalties.

Computer Access: You may use any of the Computer Science Department computers in Harney 235, 530, and 536. You do not need to own a computer for this class.

Learning Outcomes: In this course students will learn

- To write computer programs using the Python programming language
- To manipulate different types of data: number, text, lists, and dictionaries
- To write and understand basic computer algorithms
- To mentally execute and trace the execution of computer programs
- To find and correct simple computer program bugs

Tentative Course Outline:

Week	Material
8/23–8/26	Preliminaries. Hardware, software, the shell.
8/29–9/2	Programs, variables, expressions, statements. Lab 1 due Friday, 9/2.
9/6–9/9	Functions. Lab 2 due Friday, 9/9.
9/12–9/16	More on functions, loops. Program 1 due Friday, 9/16.
9/19–9/23	Branching and recursion. Lab 3 due Monday, 9/19. Lab 4 due Friday, 9/23.
9/26–9/30	More on functions and recursion. Lab 5 due Friday, 9/30.
10/3–10/7	More on loops, algorithms. Midterm 1, Monday, 10/3. Program 2 due Friday, 10/7.
10/12–10/14	Structured types: strings. Lab 6 due Friday, 10/14.
10/17–10/21	Structured types: lists. Lab 7 due Friday, 10/21.
10/24–10/28	Structured types: dictionaries. Program 3 due Friday, 10/28.
10/31–11/4	Structured types: tuples. Lab 8 due Monday, 10/31. Lab 9 due Friday, 11/4.
11/7–11/11	Files. Lab 10 due Friday, 11/11.
11/14–11/18	Classes and objects. Midterm 2, Wednesday, 11/16. Program 4 due Friday, 11/18.
11/21–11/23	Classes and functions.
11/28–12/2	Classes and methods. Lab 11 due Wednesday, 11/30.
12/5–12/7	Inheritance. Lab 12 due Monday, 12/5. Program 5 due Wednesday, 12/7.