CS 110
Fall 2013

Introduction to Computer Science
Syllabus and Policies

Professor Alistair Campbell
Taylor Science Center 2016, ext. 4377, acampbel@hamilton.edu
Office hours Mondays 2:30—4:30, Tuesdays 1:30—3:30; other times by appointment.

Course Description. The goal of this course is to introduce you to two important elements of computer science: algorithmic problem solving and program design. Although courses such as this one are often characterized as "computer programming" courses, the primary focus of this course will be on the art of problem solving using a computer, rather than merely on the skill of computer programming. While developing your ability to generate eloquent solutions to problems, you will become familiar with the Python programming language.

Prerequisite. No previous programming experience is expected. Although there is no formal college prerequisite for this course, students with strong analytical skills---especially the ability to solve mathematical "story problems" —are likely to master computational problem solving faster than others.

Readings.

1. Michael H Goldwasser and David Letscher, *Object-Oriented Programming in Python*
2. Kevin Heard, *Unix Tutorial* (http://people.ischool.berkeley.edu/~kevin/unix-tutorial/toc.html)
3. Course web page: http://www.cs.hamilton.edu/~acampbel/110

Calendar.

Week	Topics	Due dates
Week 1 (Aug. 30—Sep. 7)	Introduction to lab, using the system, Variables, assignment, expressions [Chapters 1,2]	Tue: Laptop software clinic, 4pm in 3040 Fri (6th): Lab 0 due
Week 2 (Sep. 8—14)	Definite loops, selection [Chapter 4]	Mon: Homework 1 due
Week 3 (Sep. 15—21)	Graphics, functions [Chapters 3, 5.2—5.3]	Mon: Homework 2 due Fri: Lab 1 due
Week 4 (Sep. 22—28)	Functions (continued)	Mon: Homework 3 due **Wed: Exam 1, 7 PM** Fri: Lab 2 due
Week 5 (Sep. 29—Oct. 5)	While loops, exceptions [Remaining chapter 5]	Mon: Homework 4 due Fri: Lab 3 due
Week 6 (Oct. 6—12)	Classes and objects [Chapter 6]	Mon: Homework 5 due
Week 7 (Oct. 13—16)	Classes and objects (continued), *Fall Break*	Mon: Homework 6 due Wed: Lab 4 due
Week 8 (Oct. 20—26)	Classes and objects (continued)	**Wed: Exam 2, 7 PM**

Week	Topics	Due dates
Week 9 (Oct. 27—Nov. 2)	Inheritance [Chapter 9]	Mon: Homework 7 due Fri: Lab 5 due Fri: Lab 7 proposal due
Week 10 (Nov. 3—9)	Event handling [Chapter 15]	Mon: Homework 8 due Fri: Lab 6 due
Week 11 (Nov. 10—16)	Containers [Chapter 12]	Fri: Lab 7 version 1 due
Week 12 (Nov. 17—23)	Input/Output [Chapter 8]	**Wed: Exam 3, 7 PM** Fri: Lab 7 version 2 due
Thanksgiving Break		
Week 13 (Dec. 1—7)	Other topics	Fri: Lab 7 final version due
Week 14 (Dec. 8—14)	Project Presentations	
Week 15 (Dec. 15—21)	Final exam week	**Wed 2—5 PM: Final Exam for 10:00 class** **Thu 9 AM—12 PM: Final Exam for 11:00 class**

Evaluation. Your final course grade is based on the following. Failure in any one component is grounds for failing the course.

Homework & Projects 40%
In-class exams 30%
Final exam …..... 20%
Intellectual Engagement[1] …. 10%

You may appeal grading decisions no later than one week after I return the assignment to the class.

There will be three evening exams scheduled for Wednesday September 25th, Wednesday October 23rd, and Wednesday November 20th at 7:00 PM. The lowest exam grade will be dropped.

Attendance policy. You are expected to attend every class. You may be excused only for college-sanctioned activities. You must let me know about such absences as soon as you are notified.

Late policy. Late work will not be accepted without my approval *prior* to the due date.

Final exam. The final exam for the 10:00 section of CS 110 is scheduled for **Wednesday December 18, 2:00—5:00 PM.** The final exam for the 11:00 section of CS 110 is scheduled for **Thursday December 19, 9:00 AM —12:00 PM.** All students will take the final exam at their scheduled time. Do not make any plans that would prevent you from taking the final exam.

Laboratory. The Department of Computer Science provides laboratory space, computer equipment, and software for your use in this course. You may only use the hardware and software that you have been authorized to use. We expect you to treat all equipment with the utmost respect and care. Modifying the configuration of

1 Intellectual engagement includes, but is not limited to: class attendance and participation, punctuality, focus, enthusiasm, respectfulness, inquisitiveness, and positive attitude.

any equipment without authorization is prohibited. Please report problems with labs or equipment to our department director of laboratories, Jerry Tylutki (Science Center 3020, x4289)

For your work in this class, you will be given an account on the students' CS server, a UNIX machine called `gemini`. All software and data resources you need can be found there. The Introductory Computer Science Laboratory computers are set up with direct access to this server. Additionally, you can easily configure your own personal computer to connect to `gemini` directly from anywhere on campus. (See *Laptop software installation clinic*, below.) From any other Internet-connected computer, including computers controlled by ITS, you can use Exceed (on the ITS Citrix Server).

Our facilities in the Science Center are the best places to do computer science work:

- SCCT 3040 (staffed with Teaching Assistants): Sunday—Thursday 4—6 PM and 7—10 PM except Wednesday 4—6 PM
- SCCT 2017: Monday—Friday 9 AM—4 PM, except 1—2:30 PM
- ITS Public Labs (schedules vary)
- Your own laptop in a comfortable chair.

Laptop software installation clinic. To have your laptop configured with the proper software to connect to `gemini`, there is a ***mandatory*** software configuration session. On Tuesday, September 3, anytime between 4 and 5:30 PM, bring your laptop to SCCT 3040 and Jerry will help you install the software.

Collaboration. We define collaboration as the situation where two or more students solve all or part of a problem together, then each turns in a copy, or near-copy, of the common solution. This is not permitted. On the other hand, you may *discuss* your assignments with each other, so long as it is a *verbal* discussion. There are two guiding rules:

1. You may not consult written materials about the specific problem at hand beyond the problem statement.
2. You may use a blackboard during the discussion to help participants focus on the elements of the problem, but no record of the blackboard contents may be retained by anyone.

After any discussion where all or part of a solution is hashed out, you, the individual, must work it out again, by yourself, *and* you must provide a citation.

Teaching assistants (TAs) play a crucial role in the computer science department. You should consult TAs, or me, when you need help solving a problem. Bear in mind, though, that the rules prohibiting collaboration also apply to your interactions with TAs.

Citing other's work. Often academic work builds upon the work of others. In order for me to properly evaluate your contribution to the finished product, you must use citations to acknowledge *any source of help.* All sources must be cited including, but not limited to, your peers, the course TAs, tutors, other texts, and anything from the Internet. You do not need to cite the course textbook or class notes. Questions about the proper form of citations should be directed to me.

Modern technology policy. Cell phones and similar electronic devices are not permitted in the classroom, laboratory, or professor's office. (They must be neither seen nor heard.) Personal laptop computers may not be used in class without special permission (see *Disability Policy* below.*)* Audio or video recording of lectures is not allowed. Ear-buds/headphones are not appropriate. Accessing web sites not related to this course is prohibited during class.

Disability policy. Any student with a documented disability requesting academic adjustments or accommodations must speak with me during the first two weeks of class and provide written documentation of the suggested accommodation from the Dean of Students Office (Allen Harrison, Elihu Root House; ext. 4021). All discussions will remain confidential.

A Note about the Grading of Programs. Be advised that, public opinion notwithstanding, it is not the case that "a program is a program is a program." Just as many papers written for a particular assignment in an English class can and do vary in quality, so too do programs that address a particular problem. In fact, this may be one of the most important lessons that you will learn in this course. Questions like:

- Is the program thoroughly documented to reflect your understanding of the problem?
- Were the algorithms implemented in efficient and concise manners?
- Are the algorithms generally correct?
- Did you choose data structures and algorithms that were appropriate to the problem being solved?
- Is the program "user-friendly?"

are all legitimate in the context of grading a program. The more you attend to such questions in doing your work, the more your work will be rewarded. I will do my best to be consistent and fair, and to explain my evaluations thoroughly.

About your professor. I concentrated in computer science and mathematics at Colgate University (A.B.) and I studied artificial intelligence, knowledge representation, and cognitive psychology at the University at Buffalo (M.S., Ph.D.) My current research involves bioinformatics and programming language implementation. This is my twentieth year teaching computer science, the fifteenth at Hamilton College. I enjoy singing, single-malt scotch whisky, brewing beer, all-season bicycling, and spending time with my family. I have social-media presences on Facebook and YouTube. You are welcome to send me a friend request if you'd like. My wife Colleen is a professional vocal musician and music teacher at Jarvis Middle School in Mohawk, New York. We have an 9-year-old son named Aubrey, and a 5 ½-year-old daughter named Evelyn. We all go to the St. James Episcopal Church in Clinton, where Colleen and I sing in the choir, and where I am a preacher and licensed worship leader.