

CSCI 120: Computer Science I

Fall 2011

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Class: Days Time in Room
Lab: Days Time in PPHAC 114
Office Hours: MW 4–6pm (by appointment)
To schedule a meeting: <http://goo.gl/zXqqJ>

Course Description

The goal of this course is to introduce students to the techniques computer scientists use to answer questions and solve real-world problems. The course emphasizes the design and creation of computer programs to solve problems and the analysis of program capabilities. In general, what is the best way to solve a given problem? Computer programming will be used as a vehicle for learning computer science concepts. In particular, this course includes data types, control structures, functional abstraction, parameter passing, and structured data, including simple objects.

During the in-class portion of the course, students will learn programming skills and discuss applications of these ideas. Weekly laboratories give students the opportunity for hands-on exploration of the material and the chance to solve real-world problems.

Course Objectives

Upon completion of this course, a successful student will be able to:

- Describe how the concepts of computer science are applied to solve real-world problems.
- Write programs in Python using assignments, conditions, loops, functions, and objects.
- Represent information using binary, two's complement, and floating point.
- Measure the performance of computer programs using appropriate mathematical notation.
- Break down problems using top-down design and functional decomposition.

Texts

Python Programming: An Introduction to Computer Science by John Zelle

Schedule

Weekly or Bi-weekly schedules will be distributed as we progress through the semester.

Attendance Policy

This course does not have a rigid attendance policy in the sense that there is a rule prescribing the number of lectures that you must attend. However, please do not take this as a license to never show up to class; I expect you to be at each class meeting. Your attendance in lecture is important (beyond the usual reasons) in that homeworks, due dates, and readings will be assigned in person during lecture.

Attendance in graded lab sessions is mandatory. You may assume that you must show up to each lab; if a lab is optional, I will let you know beforehand.

Academic Honesty Policy

Please read and understand the College's Academic Honesty Policy (which you can find in the Student Handbook). I will let you know what materials are appropriate to use for reference for specific assignments when they are assigned. For example, in the lab, you will generally be prohibited from using the Internet as a reference while doing lab assignments.

Since collaboration with your colleagues will be an important part of your careers, collaboration is permitted on all graded assignments (with the exception of exams). However, unless I state otherwise, you must turn in your own copy of each assignment *in your own writing*. If the ideas/algorithms expressed in an assignment are not entirely your own (*i.e.*, you worked with one of your colleagues), you must include a note stating who you worked with and the percent contributions of everyone who contributed to the work (including your contribution).

Grading Policy

There are five components to your grade:

- **Homework** The goal of homework problems is for you to practice using the current course content and to explore the topics in more detail. Problems will be assigned nearly every class session and will be due the next class.
- **Laboratory Exercises** Lab sessions will be held in the Computer Science Computer lab, PPHAC 114. During the lab, you will be given a series of activities to complete, individually or with a partner, depending on the lab. Labs are designed to utilize concepts of the past week's classroom session to answer real-world problems. In addition to writing programs to solve the problems, you will collect data from the program and write-up answers to questions.
- **Culture Points** One of the goals of this course is for you to gain an appreciation of how computer scientists contribute to the world-at-large. The examples used in class will contribute toward this goal, but you are also expected to explore other applications on your own. There are no specific due dates for culture point submissions, but you are encouraged to submit write-ups regularly throughout the semester. See the handout on culture points for additional information.
- **Exams** Three exams will be given during the semester on Monday, September 26, Friday, October 28, and Friday, December 2.
- **Final** The final will be cumulative and will be given in-class on Friday December 9 at 1:30pm.
- **Participation** Your participation grade is based on active participation in class. I believe that we learn better when we are *actively* engaged in the material. Therefore, I expect you to participate in the activities in class and contribute on a regular basis.

Your grade will be computed using the following:

- (20%) Homework
- (20%) Laboratory exercises
- (5%) Culture Points
- (30%) Exams
- (15%) Final
- (10%) Participation

Other policy matters:

- **Grading Scale:** I will use the standard 90-80-70-60 scale with pluses and minuses to assign grades.
- **Late Homework:** I will accept homework beyond its due date with the penalty of 30% of the assignment's value per day. For example, if a homework is worth 10 points and it is turned in two days late, the maximum amount of points one can receive is 4 points.
- **Lab/Exam Absence:** If you are going to miss a lab or exam due to conflict, you must let me know before the lab or exam. If you miss a lab or exam due to some other circumstance, you must let me know as soon as possible and provide me with documentation. Valid circumstances include events like illness and family trauma. Invalid circumstances are events like hangovers and faulty alarm clocks.
- **Academic Accommodations:** Please let me know immediately if you have any disability that requires accommodation. Students who wish to request accommodations in this class for a disability should contact Mr. Joe Kempfer, Assistant Director of Learning Services for Disability Support, 1307 Main Street (extension 1510). Accommodations cannot be provided until authorization is received from the office of Learning Services.

This syllabus is subject to change.