

CSCI 150: Introduction to Computer Science in Python, Fall 2015

Course Overview

Meetings: MWF 11:50 am - 1:05 pm
in Brothers College 21

Instructor: Emily Hill
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Office Hours: M 10:30 am - 11:30 am
W 2:00 pm - 3:00 pm
R 9:15 am - 10:15 am
& other times by appointment

Required Materials

Textbook

Allen B. Downey, *Think Python: How to Think Like a Computer Scientist*, 2012.

This book is available as an eBook for free (<http://www.greenteapress.com/thinkpython/>) or you can purchase a hard copy. We will also make use of other free online learning materials.



Laptop

To explore and implement the topics we will be discussing in class, you will need a laptop. During the course we will install a UNIX command line tool for our development environment. Options include VirtualBox for Windows, Terminal for Mac, and Linux.

Catalog Description



How can we automatically solve problems using computers? By the end of this course, students should be able to implement solutions to solve basic computational problems using the Python programming language. Students will learn to design, implement, document and test programs, as well as learn to apply language concepts such as iteration, decision, user-defined functions, and lists. No previous programming experience is expected.

Learning Objectives

Essential Question: How can we automatically solve problems using computers?

By the end of the course, you should be able to implement solutions to solve basic computational problems, including manipulating images, gaining insight from large data sets, and analyzing social networks. You will learn Python, a popular and easy-to-use general-purpose programming language, and use it to implement your algorithms. You will learn to navigate your computer and execute programs using the UNIX command-line interface.

Assessment

Homeworks: 15% As with any skill, learning to program takes constant practice. Graded homeworks will make use of the free online CodeAcademy python exercises. Practice HWs, which are not graded, will give additional practice to prepare for regular in-class quizzes.

Quizzes: 15% Once a skill has been mastered through practice exercises and homeworks outside of class, the next step is to demonstrate mastery with a graded in-class exercises (quizzes). These will be short (no more than 1 or 2 questions) and given at the beginning of class. No makeups.

Projects: 30% Once a skill has been mastered in isolation, the next step is to apply the newly learned skill with previously learned concepts to solve a larger problem. There will be four large projects in this class.

Exams: 40% While assignments evaluate your ability to apply course concepts in working programs, a midterm and final exam will be given to assess your mastery of the concepts *without a computer*.

Final Grades. Letter grades will be assigned based on mastery of concepts: exceptional (A), complete (B), almost complete with minor mistakes (C), little mastery with effort (D), no mastery and little effort (F). Letter grade ranges will be determined for each exam as well as the final average. Your final grade cannot be more than a letter grade higher than your average exam letter grade.

Building a Learning Environment

Class Participation. It is expected that students will attend all classes, come having completed all assigned material and practice exercises, and be prepared to answer questions and work through exercises. Class participation includes attendance, preparation, and effort to learn during class time. Showing up is necessary, but not sufficient, for participation. Students will not be penalized for absences covered by a Drew Policy (Religious Observance, Athletics, Serious Illness, Death in the Family), but are responsible for all material covered during their absence.

In-class use of technology. You are expected to use a laptop during class to work through examples and practice coding on assignments. Using technology such as laptops, tablets, and phones for non-class activities significantly limits your in class work time and potential learning opportunities. Come to class prepared to be mentally engaged the entire time, and limit technology use for unrelated activities to before or after class.

Academic Honesty. Your work in this course is subject to Drew's academic honesty policy. If you don't understand the work you submit, or if I suspect for any reason that you have submitted work that isn't yours or that otherwise violates Drew's policy, I am required to report my suspicion to the Dean of the College. Drew's standards and procedures are posted on the CLA Dean's UKnow space. Don't be afraid to discuss course topics with your peers or to google for help, but your assignments should be your own. The key is understanding the concepts enough to adapt them to new situations (such as on an exam or quiz).

Academic Accommodations. Should you require academic accommodations, you must file a request with the Office of Disability Services (BC 119, extension 3962). It is your responsibility to self-identify with the Office of Disability Services <http://www.drew.edu/academicservices/disabilityservices/register> & provide faculty with appropriate documentation from that office at least one week prior to any request for specific course accommodations. There are no retroactive accommodations. Accommodations letters should be submitted to instructors as early in the semester as possible.