

CM 151: Introduction to Computational Methods, Fall 2012

AEC 500

11:00am-12:15pm, 1:15pm-2:30pm, Tuesday and Thursday

http://cs.lafayette.edu/~taylorm/2012_CM151

Office hours: Monday 10:30-11:30, Wed 1:30-2:30, by appointment, or just drop by

Dr. Matthew Taylor (“Matt” is preferred)

Office: AEC 522

Email: taylorm@lafayette.edu (Please tag emails with [CM151] for fastest response)

Office phone: 610-330-5417

The goal of this course is to teach science majors how to develop tailored, flexible, and efficient working environments built from small programs (scripts) written in the easy-to-learn, very high-level language Python. The course will focus on examples and applications of relevance to computational science, such as using existing applications and tools, running simulations, data processing, etc.

Note that this course is not for students intending to major in Computer Science or Electrical & Computer Engineering. This course does not count for credit towards a Computer Science major or minor, but can be part of the Computational Methods minor.

Prerequisites

None

Learning Objectives

Students will have:

- A basic understanding of fundamental computing concepts.
- An ability to design and implement simple programs in Python.

Learning Outcomes

After the course, students should have:

- An ability to apply computing methods to another non-computing discipline.
- An ability to identify a problem and define the computing requirements appropriate to its solution.

Course Schedule

An evolving schedule, along with assignments and lecture slides, may be found on the course webpage.

Exams:

- Thursday 10/4: 11am-2:30pm (but should take <2 hours)
- Thursday 11/15: 11am-2:30pm (but should take <2 hours)
- Final: Wait for the date to be announced by the registrar before scheduling any trips!

Assessment Information and Grading Policy

The course grade (subject to change with notice) will be based on:

- 15% Exam 1
- 15% Exam 2
- 20% Final Exam
- 15% Labs
- 10% Project 1
- 10% Project 2
- 15% Homework / Quizzes / Reading responses
- 5% Class participation

Reading assignments will be announced in class and posted on the course webpage.

Late work will be accepted, but the grade will be reduced by 10% for every day that it is late. For example, suppose a lab would be graded as 85/100. If it were handed in 1 hour late, it would receive 75/100. If it were handed in 25 hours late, it would receive 65/100.

Course Textbook

- Python Programming: An Introduction to Computer Science (2nd Edition), John Zelle. ISBN: 1590282418

Email

I expect to answer student email within 48 hours, unless it is the weekend. Feel free to ping me if it has been more than two working days and I have not responded. To make sure your mail gets filtered correctly (i.e., gets my attention), please begin emails with a subject of:

[CM151]

Phones/laptops/iThings during lecture

You may use electronics to take notes and/or look up information in class. However, please make sure your device is silent. Penalties for electronic noise in class include singing a couple of bars of a song in front of the class and leading class a discussion during the next lecture.

Note that these devices also present temptations that many students find irresistible. You should not use your devices to play games, check Facebook, respond to email, etc. Such activities not only distract you, but (more importantly) they may distract others around you.

Labs

Lab periods are times for me, the instructor, to help you, the student. Lab attendance is optional, but I encourage you to at least attend labs when a new assignment is distributed. I will typically introduce the lab and give you useful information --- if you miss the introduction, I encourage you to talk to other students. I intend to remind you in class when new assignments are distributed, but the course webpage will always clearly list this information, as well as due dates. Unlike in lecture, I do not have a problem with you checking email, posting about how awesome your lab is on Facebook, etc., as long as it is done discretely, does not take up much of your time, and is not distracting to others. You are welcome to bring your own laptops to lab.

Academic Honesty Statement

All students are expected to adhere to the college policy on academic honesty as listed in the Student Handbook. Homework will be done individually unless otherwise specified in writing on the assignment. You are allowed to discuss projects and labs with other students but may not share code. *Any work that is not fully done by an individual must list all collaborators.*

Request for Accommodations

In compliance with Lafayette College policy and equal access laws, I am available to discuss appropriate academic accommodations that any students with a disability require. Requests for academic accommodations need to be made during the first two weeks of the semester, except in unusual circumstances, so that arrangements can be made. Students must register with the Office of the Dean of the College for disability verifications and for determinations of reasonable academic accommodations.