

Syllabus for CSCI 233 Intro Sci. Comp. Spring 2010

Cary G. Gray

Office: Armerding 114, x5875
Home: 630-784-1540 (before 10:00 p.m., please)
E-mail: Cary.G.Gray@wheaton.edu
Office hours: MWF 9:15-10:15 a.m.
 MWTh 2:00-3:00 p.m

I am typically in my office much more than the posted times, and you are welcome to stop by whenever my door is open. Check with me ahead of time if you want to be sure that I'll be there outside scheduled times.

Class meetings

MWF 8:00–9:05 a.m., Armerding 123
Th 11:15 a.m.–1:05 p.m., Armerding 131 (CS lab)
Final exam 1:30–3:30 p.m. on Thursday, May 6.

On-line resources

Additional (and updated) course information will be available at the class page at

<http://cs.wheaton.edu/~cgray/csci233/>

I will e-mail you *at your college address* when there are major updates. Be sure that you frequently read mail sent there.

Texts

There is not a required textbook for this course. We will make use of handouts, local on-line references, and Internet resources, for which the class page will provide a starting point. Selected printed material will also be available in the lab for reference and browsing.

Description

CSCI 233 Introduction to Scientific Computing

Introduction to programming and computer analysis of data for scientific applications.

This class is an alternative to our “standard” introduction, CSCI 235, Programming I: Problem Solving. The focus here will be more applied, with particular attention to the concerns of science.

Objectives

By the end of this class, you should gain:

- ability to design and write correct programs of modest size;
- some skill in providing well-founded confidence that a program is correct, and in finding and fixing defects if it is not;
- a basic grasp of the principles of object-oriented design;
- facility in using provided components to construct larger computations; and
- awareness of the pitfalls of floating-point calculations.

In addition, you should should also pick up

- proficiency with a significant subset of the Python programming language;
- some experience at tying together existing programs; and
- familiarity with working in Unix environment.

Policies

Grading. Your grade will be based on the following:

- 50% exams
- 10% participation (including attendance)
- 40% homework (including labs and programs)

Most programs will be submitted through the lab computer systems. Assignments are scheduled so that you should be able to complete them a day or two before the due date. Plan to complete them early; that way you'll have time to ask questions about them in class, and you'll have time to deal with surprises.

Be sure you turn in what you have on time: I do *not* promise to give credit for late assignments.

Academic integrity. I expect you to conduct yourself honestly in this course. When you submit work, you assert that it is your own. If you use an outside source or receive assistance, acknowledge it. Deliberate misrepresentation will result in no credit for the assignment; a second offense will result in failing the course. All offenses will be reported and are subject to college disciplinary action as well.

Because you are encouraged to work together and provide each other assistance, you do risk inadvertent plagiarism. Be cautious, especially when you ask for or provide assistance. Make sure that you don't let someone else do your work for you, and make sure that you don't do someone else's work. Should you discover that a program in a textbook or other reference is similar enough to an assignment to provide a useful starting point, that is fine—if you understand it fully. In all cases, simply be sure that you acknowledge clearly whatever help you receive.

During some of the labs, you will engage in *pair programming*, in which you and a partner work together at a single computer. During pair exercises, it is important that both members of the pair understand everything that you do.

Attendance. I expect you to be in class, and you are responsible for what happens in class whether you are present or not. If you are sick or must miss because of other school responsibilities, let me know in advance. If there is an emergency, let me know as soon as practical. (You'll do well to think of this as practice for keeping a job. Note that you can reach me by e-mail, and my office phone takes messages at all hours.)

I also expect you to be on time. If you come in late, don't interrupt class, and plan to find out what you've missed from another student *after* class.

Special needs and circumstances If you require any kind of special accomodation for any kind disability, or if you have encounter circumstances that require special consideration, it is your responsibility to let me know as early as is practical. I will work with you, but that requires that I have time to make suitable arrangements or locate appropriate resources.

Outline

A more detailed schedule will be distributed separately, and updated online.