

COSC 175A/MATH 175A: Modeling and Simulation  
Wofford College, Spring 2008

**Instructor:** Dr. Joseph D. Sloan, 216D Olin Building

**Email:** My email address is [sloanjd@wofford.edu](mailto:sloanjd@wofford.edu). I check this repeatedly throughout the day and as well as from home. Apart from coming by my office, this is the best way to contact me.

**Office Phone:** 597–4529 Be warned, I rarely check my voice mail.

**Office hours:** You are welcome to just drop by. I come in early and I'm generally here until early-afternoon. But I will make a particular effort to be here:

8:20–9:20 & 10:30–12:00 Mondays, Wednesdays, and Fridays,  
9:30–11:00 Tuesdays and Thursdays, and,  
By appointment.

**Class Schedule:** 1:00–1:50 Mondays, Wednesdays, and Fridays in 114 Olin Building

**Final Examinations:** Tuesday, May 13, 9:00–12:00

**COSC175/MATH175: Scientific Programming: Modeling and Simulation** A course in scientific programming, part of the interdisciplinary field of computational science. Large, open-ended, scientific problems often require the algorithms and techniques of discrete and continuous computational modeling and Monte Carlo simulation. Students learn fundamental concepts and implementation of algorithms in various scientific programming environments. Throughout, applications in the sciences are emphasized. (3/0/3) STAFF—*Wofford College 2007–2009 Catalogue*.

**Course Goals and Objectives:** In general, you will:

- Gain a greater understanding of how computers work and how to use them
- Learn basic problem solving skills
- Learn the basics of good program style and design
- Learn the basics of the Mathematica<sup>®</sup> and Stella<sup>®</sup> (or Vensim<sup>®</sup>) software

The instructional format is lecture-discussion. Testing and programming assignments will be used to insure the class goals are met.

**Text and Supplies:** *Introduction to Computational Science*. Angela B. Shiflet and George W. Shiflet, ISBN: 0-691-12565-1, Princeton University Press, 2006.

Although you are unlikely to need one, a calculator may be used during testing subject to the following constraints—1. the memory of the calculator must be cleared at the start of the test, 2. no sharing of calculators is allowed, and, 3. manuals or directions for your calculator are not

allowed. In practice, you will find relatively few uses for calculators in this course and can probably get by without one. Computers or PDAs may not be used during testing in this class.

**Course Web Site:** There are two websites you may be interested in visiting. The course website <http://webs.wofford.edu/sloanjd/spring08/COSC175/index.html>. This will be developed and updated as the semester progresses. You should check this regularly for schedule information, etc. The Computer Science Department's website also has links to files you may find helpful: [http://dept.wofford.edu/computer\\_science/](http://dept.wofford.edu/computer_science/).

**Grading:** Basically, the course will be divided into two parts each counting 50% of your grade. There will be two quizzes each counting 10% of your grade, a midterm and a final each counting 20% of your grade, and routine homework and projects counting 40% of your grade. Thus, the first part of the course will include one quiz (10%), the midterm (20%), and half of the assigned work (20%) while the second part includes one quiz (10%), the final (20%) and the other half of the assigned work (20%). Some assignments may count more than others but this will be announced in advance.

Any points awarded toward an incorrect answer as partial credit are totally at my discretion. Returning the Preliminary Student Survey is a requirement of the course.

**Tentative Course Schedule:** Test for the course are tentatively scheduled for Wednesday, February 27, Friday, March 21, and Monday, April 21. As the course progresses, a detailed course schedule will be developed and posted on the course web site. This will be updated on a regular basis throughout the semester. At the start of the semester, the schedule posted on the web site shows what was done the last time the course was taught. You should expect this schedule and many of the assignments to change as the course progresses.

**Grade scale:** At a minimum, grades will be assigned according to the following scale:

Final Course Average	Letter Grade
93–100	A
90–92	A <sup>-</sup>
87–89	B <sup>+</sup>
83–86	B
80–82	B <sup>-</sup>
77–79	C <sup>+</sup>
73–76	C
70–72	C <sup>-</sup>
60–69	D
0–59	F

**Late Work:** Work not submitted by the due date will receive a grade of zero. If you have a legitimate reason for not submitting an assignment (e.g., illness) you may submit the assignment within one week of the due date (negotiable) along with a written explanation of why the work was late. If, in my judgment you have a valid reason for the late submission, I will either grade

the work, grade the work with penalty, or exempt you from that assignment. If in doubt, contact me.

**General Policies:** Please read the Student Handbook!

Wofford's attendance policy is described in the Student Handbook. This course will enforce those policies. In particular, daily attendance will be taken! Arriving for class after the role has been taken or leaving class early will normally be considered an absence. While I tend to be fairly forgiving for excused absences, it is your responsibility to justify absence upon returning to class if you want me to consider excusing the absence. Ultimately, I reserve the right to decide which absences are excused. No unexcused absences are permitted for this class. Typically, the second unexcused absence will result in a formal warning and a third unexcused may result in a failing grade for the course.

Lectures in this class will expand and augment the material in the text. You will be responsible for all material covered in class including material that is not in the text or assigned readings! *If you have not read the assigned reading prior to class, you forfeit the privilege to ask any questions during that class!*

Work will only be returned to you; no one may pick up graded work for someone else. If you fail a test, you should come by to see me as soon as possible. Use of a recording device such as a tape recorder requires prior approval. Please *turn-off* and *put-away* all pagers and cell phones before the start of class.

*It is an expectation of the class (and the College) that you will check your Wofford email account on a daily basis.* I will occasionally use this to warn you of schedule changes or to provide additional advice on programs or homework assignments.

Visit <http://www.wofford.edu/studentlife/honorcode.pdf> to view Wofford's Honor Code. Keep in mind that some of your CS assignments may be collaborative. What might be an Honor Code infraction in one instance may not be in another. There is a general document describing collaboration and the Honor Code on the departmental web site at [http://dept.wofford.edu/computer\\_science/Honor%20Code%20%20CS.pdf](http://dept.wofford.edu/computer_science/Honor%20Code%20%20CS.pdf). If in doubt about what is appropriate for a particular assignment, be sure to contact me for clarification. Also, please keep in mind, anyone assisting someone in a dishonest act (such as allowing your work to be copied) will also be considered culpable.

Reasonable accommodations for students with disabilities will be made. However, requests must be come through Dean Beth Wallace, Hugh R. Black Infirmary (597-4371). If you need accommodations or have questions, please contact her as soon as possible.

If you are in doubt about any of the above, please see me immediately. Please note, syllabi are subject to change upon notice.