

Math 325 Modeling Syllabus

Spring 2006

Monday, Wednesday, Friday 12:00-12:50 in Sci. 308

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Office hours: Wed. 3-4, Thurs. 2-4, and by appointment.

Course information: Available on [Blackboard](#) and the course website, <http://ecademy.agnesscott.edu/~jwiseman/mat325>

Textbook: Beltrami, *Mathematical Models for Society and Biology*, available in the bookstore. There is a list of errata at <http://ecademy.agnesscott.edu/~jwiseman/mat325/stuff/beltramierrata.pdf>.

Plan: We'll cover most of chapters 1, 2, 4-6, and 9. We'll also spend some classes doing our own modeling - attendance is mandatory on these days. In addition, there's a final project - an 8-10 page paper and twenty-minute class presentation on a modeling topic of your choice. Here's a list of some possible topics (I encourage you to think of your own): cellular automata, traffic flow, voting theory, drug dosages, arms control, bioinformatics, Poisson processes, diffusion models, game theory, learning, influence and social power.... There's a more detailed schedule on [Blackboard](#) and at <http://ecademy.agnesscott.edu/~jwiseman/mat325/schedule.html>, but it's subject to change.

Homework: Working problems is vital to learning math; there will be homework assignments nearly every week, due at the beginning of the class on Friday. Assignments will be posted on [Blackboard](#) and at <http://ecademy.agnesscott.edu/~jwiseman/mat325/assignments.html> - you are responsible for checking the assignments, as I won't give them in class. There may also be homework associated with the in-class modeling days.

Honor code and group work: All students are expected to follow the honor code throughout the semester. I strongly encourage you to work on the homework in groups. I suggest that you work on the problems by yourself first, making a note of anything giving you trouble; then meet with your group and work through the remaining problems together; and finally write up the solutions by yourself. Every group member must write up her own solutions independently; just copying the group's answers is plagiarism and is unacceptable.

Getting help: As Talking Barbie says, "Math class is tough." (Unless she's the hacked version - then she says, "Eat lead, Cobra.") Chances are that sooner or later you'll get stuck on something, so don't get frustrated. Think hard, and if you're still stuck, do something else for a while. (It's amazing how often that works.)

My office hours are above - these are times when I'm guaranteed to be in my office and willing to talk. If you want to see me at other times, the best thing to do is to set up an appointment with me by email or after class. Of course, you're welcome to just drop by my office, as long as you don't mind if I'm not there or don't have time to talk.

Finally, I can't emphasize enough that your classmates are your best source of help.

Course goals:

- Understand and evaluate the use of mathematics in modeling the real world
- Learn to create and use our own mathematical models
- Learn to communicate mathematics effectively, both orally and in writing

Exams and deadlines:

- **Proposal for final project due:** Monday, 2/20. Please hand in a one-page description of your topic, including the main ideas or results that you plan to cover. Also include a tentative list of sources.
- **Midterm:** Friday, 3/3.
- **Final project outline and bibliography due:** Monday, 3/27.
- **Final presentations begin:** Monday, 4/17.
- **Final paper due:** Monday, 5/1.
- **No final exam.**

Assessment: Homework/in-class modeling 1/3, midterm 1/3, final project 1/3.

Late assignments and exams: Late assignments won't be accepted, and you won't be allowed to make up missed exams, except under very exceptional circumstances (e.g., the sasquatch attacks - and even then you should get a note from the sasquatch). In the case of a conflict that you absolutely can't resolve, you may arrange to take a midterm exam early.

Attendance: I expect you to be at every class, on time. However, tardiness or absence will have no (direct) effect on your grade.

Feedback: I'm very interested in your feedback throughout the class: what you like, what you don't, what's working for you, what isn't - anything that you think might help me make the course better. If you have any comments (and you probably should), the easiest thing to do is to talk to me (or send email) about them. If you want to remain anonymous, you can fill out the anonymous feedback form on [Blackboard](#).

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