Math 325 Modeling Syllabus

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Spring 2008

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Office hours: Mon 11-11:30, Tues 2-3, Wed 2-3.

Course information: Available on Blackboard and the course website, http://ecademy.agnesscott.edu/~jwiseman/mat325 .

Required material: The textbook is Mooney and Swift, *A Course in Mathematical Modeling*, available at the bookstore.

Plan: We'll cover most of the book, and finish up with some applications to modeling of epidemics. There's a more detailed schedule at http://ecademy.agnesscott.edu/~jwiseman/mat325/schedule.html , but it's subject to change.

Homework: There will be homework assigned throughout the semester. I strongly encourage you to work in groups, but you must write up the results yourself. 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.

Chapter projects: During the first half of the semester, you will be assigned group projects from the end of each chapter. We will generally begin these in class, and you will present them in a later class.

Final projects: The final project consists of an 8-10 page paper and a 20 minute in-class presentation on a modeling topic of your choice. During the second half of the semester the class will be more lecture and less group work, to give you time to work on your project. Here is 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....

Honor code and group work: All students are expected to follow the honor code throughout the semester; all exams and

assignments should be pledged.

Getting help: 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: Learn to

- Understand and evaluate the use of mathematics in modeling the real world
- Create and use our own mathematical models
- Communicate mathematics effectively, both orally and in writing

Exams: We will have one midterm exam (take-home) and no final.

Dates and deadlines:

- Midterm: Wed 3/12, take-home.
- Proposal for final project due: Mon 3/17
- Final project outline and bibliography due: Mon 4/14
- Final presentations begin: Mon 4/21
- Final paper due: Mon 4/28
- No final exam.

Assessment: Homework, chapter projects, class participation 50%; midterm 25%; final project 25%.

Late work: Late work 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: Attendance is required at every class meeting.

Jim Wiseman
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