

Math 101 Finite Mathematics Syllabus

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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/mat101> .

Required material: The textbook is Tannenbaum, *Excursions in Modern Mathematics*, 5th ed., available in the bookstore. The publisher has a [webpage](#) for the book. You will also need a scientific calculator (it doesn't have to be a graphing calculator, but that will certainly work).

Plan: We'll cover most of chapters 1, 3-6, 11, 12, and 15 (not in that order). Topics include voting theory, fair division, apportionment, symmetry, fractal geometry, probability, and graph theory. There's a more detailed schedule at <http://ecademy.agnesscott.edu/~jwiseman/mat101/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 class on Friday. On the first page of homework assignments, write a list of any assigned problems that you did not finish (it should be a short list). Show your work. 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/mat101/assignments.html> – you are responsible for checking the assignments, as I won't give them in class.

Projects: In addition to the homework, there will be three projects. The first is a [group debate on voting systems](#) in class on 9/15. The second is an [op-ed article on voting systems](#), due in class on 9/19. The third is a group presentation and paper on a

topic in symmetry or fractal geometry. I will provide more details later. *Attendance is mandatory on debate and project days.*

Honor code and group work: All students are expected to follow the honor code throughout the semester; all exams and assignments should be pledged.

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.

Our Math Learning Center coordinator, Ms. Hartnett, together with student learning assistants will be able to provide help throughout the week. More details, including the schedule, are on [Blackboard](#) and at TBA. You are encouraged to use this service, and should think of it as part of your weekly mathematics regimen. Finally, I can't emphasize enough that your classmates are your best source of help.

Course goals: Learn to

- Apply the techniques of finite mathematics
- Find and appreciate the mathematics in everyday life
- Develop skills in problem analysis and problem solving
- Interpret real-world problems in the language of mathematics
- Communicate mathematics effectively, both orally and in writing

Exams: We will have two midterm exams and one final exam, all closed-book. The midterms are in-class exams, and the final is self-scheduled. The first midterm covers all material up to that point, the second covers all material since the first, and the final is

cumulative.

Dates and deadlines:

- Voting methods debate: Mon 9/15, in class.
- Voting methods op-ed: due Fri 9/19, in class.
- First midterm: Wed 9/24, in class.
- Second midterm: Mon 10/27, in class.
- Symmetry/fractal project: present Mon 11/10 and Wed 11/12.
- Final exam: self-scheduled.

Assessment: Each midterm 15%, homework 15%, debate 5%, op-ed 10%, symmetry/fractal project 10%, final exam 30%.

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 (for example, a religious holiday), 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, unless of course you miss a debate, project, or midterm day.

Course evaluation: Your feedback on the course is extremely valuable to me, the math department, and the administration. In particular, I take your comments very seriously and use them to improve the course the next time I teach it. You are responsible for completing an evaluation of the course at the end of the semester. I will provide more details later.

Problem of the Week: The math department runs a biweekly "Problem of the Week," where students such as you try to answer a mathematics puzzle and win a fabulous prize (\$10). A correct submission to a problem by its deadline will result in 5 homework bonus points. The problems are posted in the math office, and they are also found at <http://math.agnesscott.edu/mathdept/potw/index.html>.