

Math 509: Seminar for Teachers – Spring 2009

Instructor: Heather Finotti
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Office Hours: see website

Course Web Page: <http://www.math.utk.edu/~heather/509Math.html>

Course Packet: “Modeling Differential Equations in Biology, 2nd Edition (2008)”
by Dr. Clifford Taubes

Lectures: W 5:45-8:35pm, 132 Haslam Business Building (formerly Glocker Hall)

Midterms: (TENTATIVE) Feb 18, Apr 8

Final: Final Written Projects Due by Wednesday April 29,
Presentations will be during last class day

Grade: 25% for homework (written), 15% computer homework
20% for each midterm, 20% for the final project.

Course Information

In this course you will be introduced to using differential equations to analyze biological problems, and will be given short lectures by research mathematicians on a wide variety of applied math topics. The main purpose of this course as I see it is to expose you to applied mathematics in general in as much breadth as possible, and to “get your hands dirty” by learning particular applications to biological problems. My hope for this course is that by getting greater exposure to what it is applied mathematicians do, and to the power of the generality of mathematics, you can more easily convey the importance of learning and understanding mathematics to your students.

Please let me know if you feel that you may not have an adequate background for success in this course, or if you have not met the course prerequisites with at least a 'C' grade.

Expectations Summary

1. Read sections and research papers that we will be covering before coming to class. We will discuss the research papers with the assumption that everyone has already read them.
2. Active engagement during class - I **expect** you to ask questions during class, and that you are actively thinking about what is being presented. So, please, do not hesitate to ask questions or make relevant remarks during class.
3. Homework will be due daily at the beginning of class and problems will be posted on the website. Late homework will not be accepted, so the lowest two scores will be dropped.
4. Check your email and the website frequently. I will be using email to send out announcements about the course.

5. You will need access to MATLAB. Please let me know if this is an issue for you.

Course Structure and Definition Quizzes

The tentative day-by-day course structure is on-line at

<http://www.math.utk.edu/~heather/509Spring09Calendar.pdf>,

and will be updated regularly (it's better to check this regularly on-line than print it out – it is likely to change fairly often). Here you can see what sections will be covered in lecture each day and when the exams will be held. The guest speaker calendar, along with the title and topic of their talk, is at

<http://www.math.utk.edu/~heather/509GuestSpeakerCalendar.pdf>,

Homeworks

Homeworks will be posted on the course homework page at

<http://www.math.utk.edu/~heather/509Homework.html>

and will not be announced in class. I will be assigning problems the day after each class day which will be due the following class day. For your homework write-ups, I ask that you adhere to the following instructions:

1. The first page should have only your name, **the names of the people with whom you worked (if any)**, and the number of the homework set. Please **do not** write this information on any other page. (The purpose of this is grading anonymity.)
2. There should be no more than **two** problem solutions on one side of a piece of paper. Please feel free to use both sides of the paper.
3. Each solution should begin with the problem chapter, number, and original problem statement (for a problem in chapter 4, say number 12, you could just write 4.12 if you'd like). Your handwriting should be easily readable (and not just by you :), by any random average English-literate person).
4. **Thorough** explanations and correct use of notation are expected in your proofs and exercises. An answer alone is never a complete solution – work/explanation should always be included. Complete sentences and good grammar are expected! Exposition is important in mathematics too. Most of all, make sure that you check yourself for complete, logical arguments (look for gaps in reasoning, missing justifications, etc).
5. Working in groups on homework sets can certainly be beneficial, and I encourage you to form study groups, however you must do your final homework write-ups on your own and in your own words. Consider this the real test **for yourself** of whether or not you understand. **All collaboration or outside help must be acknowledged**. Plagiarism in any form will not be tolerated.
6. **Staple** all of your solutions together before turning them in.

Late homework will not be accepted. The reason that I will drop the two lowest scores is exactly to account for students needing to miss a due date for reasons of sickness, family emergency, etc. If you end up in a situation where illness or an issue is going to cause you to miss turning in more than 2 assignments, contact me.

It is your responsibility to keep all your graded homework and midterms. It is very important to have them in case there are any problems with your grade.

Definitely **come to my office hours** if you are having difficulties with the course – this is what they are for. Please try to come during my *scheduled* office hours, but feel free to make an appointment if that would be impossible. You can also email me with questions.

E-Mails

You will have to check your e-mail at least three times a week, preferably daily. I will use e-mail (given to me by the registrar’s office) to make announcements. I will assume that any message that I send via e-mail will be read in two days or less, and it will be considered an *official* communication.

Due to privacy issues, I cannot send grades via e-mail, unless you sign a document saying that you are aware that e-mails are not secure and not necessarily private. (In fact, because of the open records laws in Tennessee, it really is not private.) If you want to sign such a document, please let me know. Grades for midterms will generally be posted on the course blackboard site, however.

Feedback

I have an *On-line Feedback Form* at

<http://www.math.utk.edu/~heather/php/feedback.html>

where you can anonymously send me your comments and suggestions. I will consider your comments and try to do whatever I can to resolve possible problems before it is too late. So, please, feel free to use it whenever you have any constructive comments or suggestions. (In fact, I would greatly appreciate it.)

Legal Issues

Conduct. All students should be familiar and maintain their “Academic Integrity”: from *Hill-topics 2007/2008* (<http://web.utk.edu/~homepage/hilltopics/HILLTOPICS2007-08.pdf>) pg. 40:

Academic Integrity

The responsibility for learning is an individual matter. Study, preparation and presentation should involve at all times the student’s own work, unless it has been clearly specified that work is to be a team effort. Academic honesty requires that all work presented be the student’s own work, not only on tests, but in themes, papers, homework, and class presentation. There is a clear distinction between learning new ideas and presenting them as facts or as answers, and presenting them as ones own ideas.

You should also be familiar with the “Classroom Behavior Expectations” found at

<http://www.math.utk.edu/Undergraduate/undergrad/Expectations.pdf>.

Disabilities. Students with disabilities that need special accommodations should contact the “Office of Disability Services” (<http://ods.utk.edu/>) and bring me the appropriate letter/forms.

Sexual Harassment and Discrimination. For *Sexual Harassment* and *Discrimination* information, please visit the *Office of Equity and Diversity* at <http://oed.admin.utk.edu/> and check

http://oed.admin.utk.edu/docs/complaint_sex_harass.pdf (Sexual Harassment)

<http://oed.admin.utk.edu/docs/DiscrimCompProc.pdf> (Discrimination)