Math 435: Intro to Partial Differential Equations Summer 2014

Instructor: Dr. Heather Finotti
Office: 233 Ayres Hall
Phone: 865.974.4320 (you cannot leave messages for me here)
e-mail: heather@math.utk.edu (this is my preferred means of communication)
Office Hours: see website

Course Web Page: http://www.math.utk.edu/~heather/435Math_Summer.html

Course Text: "Partial Differential Equations: An Introduction", 2nd Edition
by: Walter Strauss

Lectures: MWF 1:30-3:00, Ayres Hall 124

Midterms: Exam 1 July 11
Exam 2 July 18
Exam 3 July 28
Exam 4 Aug 6

Final: Friday, August 8

Grade: 25% for each midterm
25% for the final exam.

Grading Scheme: 90-100 A, 87-89 A-, 84-86 B+,
80-83 B, 77-79 B-, etc.

Course Information In this course you will be introduced to Partial Differential Equations.

This class is by no means a comprehensive study of this area - it is truly an introduction to some of the most fundamental examples from Science and Engineering. We will be looking at a little of both the theoretical and computational aspects of solutions of certain PDEs, but we will not be studying how to approximate solutions to PDE using computers.

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. As the pace of a summer course is a bit relentless, this point is even more important now than during a regular semester if you hope to get anything out of this class: Read sections that we will be covering before coming to class. You will be assigned definitions and theorems to write up and turn in from the assigned reading. Please do not treat this as busy work, but as the first step toward learning the material covered. Whatever you have turned in by each exam, you will be given to use as reference during the exam.

2. Active engagement during class - I **expect** you to ask questions during class, and that you are actively thinking about what is being presented. This course requires you to understand, not

merely memorize, so please keep this in mind as you study, participate in class, and do your homework.

3. I will not in general give makeup exams. The lowest exam score (but not the final) will be dropped to allow for any necessary absence during an exam. Exams will be allowed to be made-up only in the event of a **documented** emergency, if more than one exam is missed.

4. Check your email and the website frequently. I will be using email to send out announcements about the course.

Course Structure

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

`http://www.math.utk.edu/~heather/435Summer14Calendar.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, so you know what to read to be prepared for lecture, and when the exams will be held.

Homework & Exams

Homeworks will be posted on the course homework page at

`http://www.math.utk.edu/~heather/435Homework_Summer.html`

and WILL NOT be announced in class. **Doing the homework is the most important part** of the learning process and I will assume that you will work hard on it. Homework will not be collected, rather we will have frequent exams. On each exam, at least half of the credit will come straight from the homework, or from proofs/derivations I have asked you to learn.

Thorough explanations, with all work shown and correct use of notation, are expected in your solutions. Complete sentences and good grammar are also 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).

Working in groups on homework sets can certainly be beneficial, and I encourage you to form study groups, however it is very important to do a final homework write-up on your own and in your own words. Consider this the real test **for yourself** of whether or not you understand.

It is your responsibility to keep all your graded 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, but if they are last minute realize that I may not read it in time to respond.

E-Mails

You will need to check your e-mail at least three days a week, preferably daily. I will use e-mail (via the address 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 one day or less, and it will be

considered an *official* communication. If you prefer I use an address other than your "utk" account, please let me know.

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 *Hilltopics 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)