Math 231 - Intro to Ordinary Differential Equations - Fall 2015

Instructor:	Dr. Heather Finotti
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e-mail:	`heather@math.utk.edu` (this is my preferred means of communication)
Office Hours:	Posted at `http://www.math.utk.edu/~heather/teaching.html`
Course Web Page:	`http://www.math.utk.edu/~heather/231Math_MWF.html` OR `http://www.math.utk.edu/~heather/231Math_TR.html`
Course Text:	"Fundamentals of Differential Equations" - Eighth Edition by Nagle, Saff, and Snider
Lectures:	MWF 11:15-12:05, Ayres 110 MWF 12:20-1:10, Ayres 120 TR 9:40-10:55, Ayres 124 TR 11:10-12:25, Ayres 120
Midterms:	There will be two midterms See class calendar for dates.
Final:	Each section has a different final exam time. See class calendar for dates and times.
Grade:	25% for homework, 25% for two highest midterms 25% for the final exam.
Grading Scheme:	93-100 A, 90-92 A-, 87-89 B+, 83-86 B, 80-82 B-, etc.

Course Information

The main purpose of this course is to master the basics of ordinary differential equations. We will aim to become proficient in solving equations whose unknowns are functions of a single variable, and we will become well-versed in the theory of such equations and how to apply it. In other words, we are going to learn to compute and understand solutions to differential equations.

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 we will be covering before coming to class, and write out the assigned definitions and theorems. I will assume that you are familiar with the basic terminology and will be collecting your definitions nearly *every class* as part of your homework. The lowest two of these will be dropped to allow for occasional necessary absences.

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 during class.

3. Homework quizzes will be given at the beginning of class. The dates of the quizzes are listed on the homework page and problems will be posted on the website. There will be no makeup homework quizzes, so the lowest two scores will be dropped.

4. Check your email and the website frequently (at least every other day). I will be using email to send out announcements about the course.

Course Structure and Definition Quizzes

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

http://www.math.utk.edu/~heather/231Fall15Calendar_MWF.pdf,
OR
http://www.math.utk.edu/~heather/231Fall15Calendar_TR.pdf

and will be updated regularly (I will notify you of any changes via email. Because it is likely to change, I recommend checking the calendar online as a rule, rather than printing it out and using that). There you can see what sections will be covered in lecture each day, (this is also your indication as to what you should read before each class) and when the exams will be held.

Homeworks

Homeworks will be posted on the course homework page at

http://www.math.utk.edu/~heather/231HomeworkMWF.html
OR
http://www.math.utk.edu/~heather/231HomeworkTR.html

and will not be announced in class. Beside each problem set you will see a date that indicates when you will be quizzed over that problem set.

Exercise sets will not be collected, but doing the homework (yes all of it!) is absolutely the key to learning the material and doing well in the class. I will be giving quizzes over the assigned problems which will be made up of problems taken directly from the homework. This is my attempt to more strongly motivate you to keep up with the work. **If you do not do the homework problems or do not get help with the things you don't understand, do not expect to pass.**

No makeup homework quizzes. 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 more than 2 quizzes, contact me.

Another part of the homework is doing the definition/theorem writing. The point of these writeups is to have you read, write, and reflect on the material we will be covering in lecture *before* we cover it. This allows you set up a sort of scaffold in your mind before class, that you can then begin to better fill in with details in lecture. It also reduces the amount of learning that

needs to occur in lecture, allowing you to get more out of what we cover in class. AND it increases long term retention of the material.

Read your mathematics actively before coming to class, and it will greatly increase your understanding and long-term retention, setting you up for future success! Or don't, and set yourself up for future struggle.

No late definitions will be accepted. Again, I drop the lowest two of these to keep some flexibility/mercy in the mix.

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.

I strongly encourage you to form study groups. Research shows that this can be highly beneficial to learning. However, it's important that you write up your homework problems **on your own** so that you know clearly what it is that you do and do not understand. The homework is for learning the material and part of the process of learning is seeing what it is that **you do not know**.

Absolutely **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, as I am not on campus often and have difficulty being here away from this scheduled time. That said, I can still find time to meet with students outside my regularly scheduled office hours if you make an appointment with me. You can also email me with questions. I am not available for drop-in office hours in general, as if I am in my office outside of office hours it is because I need to get other work done for the course (my time, like yours, is precious and nearly always too little).

Exams

We will have two midterms and a comprehensive final exam. These exams will be made up of problems you have not seen before. I am not interested in whether or not you can parrot me or the book, but whether or not you have made the material your own and are really working toward understanding it. After all, the point of taking this course is so that you can use the material you learn here after the fact – in later courses and/or in your future careers. You cannot use what you do not understand, and likely won't even recognize when you *could* use this if you don't understand it.

Finally, I grade your exams anonymously - meaning I don't know who's work I'm grading as I grade. I do this to protect you and to protect me. In this way, you can be sure that you need not worry about anyone's perception about your abilities, or knowledge of your past performance, influencing your grade. I want to know that your grade is as accurate a reflection of your level of demonstrated knowledge on the exams as possible.

E-Mails

It is best 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

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)