

Syllabus

Math 320

Fall '16

Text: A First Course in Differential Equations by Zill, 10th edition

Instructor: Jed Herman Office: SCI D 287 (x4188)
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Office Hours: TW 2:00 – 2:50, R 1:00-1:50, F 12:00 – 12:50
or by appointment (or whenever I'm in... just stop by!)

Class times & room: Section 1: MTR 1:00 – 1:50 am in Science D 217
Section 2: MWF 3:00 – 3:50 am in Science D 228

Course Objectives:

- To learn how to solve Ordinary Differential Equations (ODEs)
- To learn to model real applications using differential equations
- To learn how to effectively communicate mathematical ideas to others

Grading:

Grading will be based on an overall percentage score, using the following scale:

90%+ A- or better	80%-89.9% B-, B or B+
70%-79.9% C-, C or C+	60%-69.9% D-, D or D+
<60% F	

I reserve the right to adjust the final percentage +/- up to about 2%, based on my assessment of your effort and/or participation in the class and course in general.

To get your overall score, you will be graded on the following:

Quizzes (<i>based on homework</i>)	20%
Class Participation	20%
Exams (3*)	60%
Final	<u>20%</u>
	100%*

Exams:

There are three exams in the schedule for this course, plus a final. Each is worth 20%; I will drop your lowest score of these four tests. That means you can bomb a (one) exam and not have it hurt your grade. It also means if you do okay on all three scheduled exams you can skip the final! (It would then be your lowest grade, so it would be dropped).

- *Why not use all four scores?* Everyone can have a bad day. If it happens on an exam day, I don't want it to ruin your grade. Also, finals (and reviewing for finals) are a great way to summarize everything covered in a course – but Finals Week is simply too busy and stressful for it to be the great experience it should be.

Quizzes and Homework:

Mathematics requires thought, multiple attempts, and time in order to reach real mastery. Unfortunately, in-class exams do not offer enough time to try things out – so something else is needed. In most courses, I assign homework assignments to assess this aspect of the course. In this course, I am trying something different: instead of homework, we are having quizzes. Well, sort of.

Every week there will be “quiz preparation” problems to prepare for the quiz. You should do these. Why? Because the quizzes will be a subset of these exact problems. During the quiz time, you will have to solve some of them – using your notes if you wish... so if you have already worked out all the “preparation” problems correctly and in detail, you should get 100% on the quizzes!

Essentially, these quizzes are homework assignments in disguise. I expect you to do them before by the quiz date, writing them up clearly enough to be able to use your work on the quizzes. In some cases there will be more problems than you can do completely – but they should be related to each other, so you can solve at least some from each topic.

It is really important to do these problems ahead of time – there is not enough time in a quiz to solve them all from scratch, and you don't want to get a poor score on the quiz portion of the grade. Just to hammer that point home, I once had a student who scored 97%, 95%, and 100% on the three in-class exams – but she did not do assigned work. She got a C+ in the course.

D2L boards are set up for each week, for students to post questions and/or answers to questions about the problems. One last bit: your work is your work. Working with others is good, but simply copying their work is not.

Projects:

Projects are another great way to develop mastery in a course. In this course, however, we will not use them. Instead we will use class presentations and participation.

Class Participation:

There is definite value to having a knowledgeable instructor to explain material and guide a course, and to connect material by proving important theorems. But students learn more from DOING mathematics and talking about mathematics than from watching an instructor write on the board.

Syllabus page 3

Math 320

Fall '16

Class Participation (continued)

To that end, I intend about half of the class days to be about students presenting material on the board. You should intend to present often – and you should ALSO get in the habit of asking questions and talking about the work of other students. Class Participation is worth 20% of your course grade – SO DO NOT BLOW IT OFF! The grade comes from three components:

- How often you present problems
- How correct and clear your presentation work is, and how well you answer any questions from the class (or me)
- How often you contribute to class discussion – either during lecture or during someone else's presentation – in a meaningful way

This is very different from most (math) classes, where you are expected to listen to a professor lecture instead of participating. It will take some getting used to, but it ultimately helps develop a strong mastery of the material – as much as any other method.

D2L

D2L will serve as a storage space for worksheets and assignment pages. That way, you can easily get access to them if you miss them. There will also be discussion boards available for you to post comments or questions.

The boards will be monitored after the fact. That is, you will post directly to the board, and I will monitor (semi-weekly). Postings are never anonymous and must not contain inappropriate (foul, rude, hostile) language. Violation of this rule may constitute academic misconduct (see below).

Attendance:

You are expected to regularly attend class. When circumstances arise to prevent you from coming to class, you should let your instructor know (email is a great way to do so). Missing exams and/or paper deadlines will only be allowed in the most dire of circumstances and WILL require ACCEPTABLE DOCUMENTATION as to the reason for the absence.

Academic Misconduct Policy

I expect you to complete the coursework for this course. Failure to complete an assignment will result in zero points awarded for that assignment. Late assignments may lose points, at the discretion of the instructor. Also see the following link:
<http://www.uwsp.edu/admin/stuaffairs/rights/rightsChap14.pdf>

Syllabus page 4

Math 320

Fall '16

Student Rights and Responsibilities

You have certain rights and responsibilities. For more information, see the following link: <http://www.uwsp.edu/admin/stuaffairs/rights/rightsCommBillRights.pdf>

Disabilities

Information concerning accommodations made as per Section 504 of the Rehabilitation Act or the Americans with Disabilities Act can be found at <http://www.uwsp.edu/admin/stuaffairs/rights/rightsADAPolicyInfo.pdf>

In particular, to request any accommodations of this type, relevant to this class, you should discuss the matter with the Disability Services Office. Information and contact information may be found at <http://www.uwsp.edu/special/disability/>

Book Content

Our course will follow the book fairly closely. Chapters 1, 2, and 3 serve as an introduction to ODEs and a basic foundation for linear differential equations. Chapters 4 and 5 expand that foundation to higher order differential equations, particularly those of second order. Beyond this I hope to be able to touch on Laplace Transforms, possible Systems of ODEs as well – but we will have to see how much depth we can have for that.

Schedule (subject to change if necessary!)

Week	Sections	Worksheets	Quizzes/Exams/Other
9/6 to 9/9	1.1, 1.2, 1.3	#1 (mostly review)	
9/12 to 9/16	1.3, 2.1 to 2.3	#2 (1.1 to 1.2)	Q 9/12, Q 9/15&16
9/19 to 9/23	2.4, 2.5	#3 (1.3, 2.1, 2.2)	Q 9/19
9/26 to 9/30	2.6, 3.1, 3.2	#4 (2.3 to 2.5)	Q 9/26
10/3 to 10/7	3.2, 3.3	#5 (2.6, 3.1)	Q 10/3, Exam 10/6&7
10/10 to 10/14	4.1, 4.2		
10/17 to 10/21	4.3, 4.5	#6 (4.1, 4.2)	Q 10/17
10/24 to 10/28	4.6, 4.7	#7 (4.3, 4.5)	Q 10/24
10/31 to 11/4	4.8, 4.9	#8 (4.6, 4.7)	Q 11/7
11/7 to 11/11	4.10	#9 (4.8, 4.9)	Q 11/14, Exam 11/10&11
11/14 to 11/18	5.1, 5.2		
11/21 to 11/23	7.1, 7.2	#10 (5.1, 5.2)	Q 11/21
11/28 to 12/2	7.2, 7.3, 7.4	#11 (7.1, 7.2)	Q 12/5
12/5 to 12/9	7.4, 7.5	#12 (7.3, 7.4)	Exam 12/8&9
12/12 to 12/14	Course Review		