

Syllabus for Mathematics 3113-003/005
Introduction to Ordinary Differential Equations
Spring 2004

Please read this syllabus carefully. You will be responsible for all the information given here, and for any modifications to it that may be announced in class.

Text: The textbook for this course is *Differential Equations and Boundary Value Problems*, (3rd edition), by C. Henry Edwards and David E. Penney. You may be able to get by with the 2nd edition, but you will need to obtain the homework problems from the 3rd edition. Except for sections 1.2, 1.3, 1.4, and 1.6, the assigned problems are the same in both editions.

Instructor: Dr. Max Forester

Office: 1119 Physical Sciences Center

Phone: 325-2396

Email: forester@math.ou.edu

URL: www.math.ou.edu/~forester

Office hours: to be announced

Lectures: You are expected to attend all lectures, and are responsible for all information given out during them. As in any course, you should try to read the relevant section of the textbook **before** attending lectures.

Grading scheme: Grades will be assigned by weighting your totals from Homeworks, Quizzes, Exams, and the Final Exam as follows:

Homeworks	15 %	
Quizzes	6 %	
Exams 1–3	18 %	each
Final Exam	25 %	

Homework: Homework will be due at the **start** of class on Tuesdays, with the exception of Tuesday February 10 (the date of the first exam). That week's homework will due on Thursday February 12. You are responsible for ensuring that your homework gets turned in on time. Late homework will not be accepted. They upset the grading process and are unfair to other students. To allow for sickness or other circumstances, I will drop your two lowest homework scores.

Warning: The homework assignments are there to provide you with a **minimum** level of exposure to the material outside of class time. You will likely need to do many more problems to achieve the command of the subject matter necessary to perform under the stressful conditions of taking an exam.

You may consult with other students about the homework problems; indeed I encourage you to do so. However, you will need to write up the solutions in your own words.

It is a complete waste of time to just copy from a solutions manual or from someone else's work. If you decide to turn in work that is not your own, you will not learn the material adequately, and you will pay a heavy price on the exams.

For help, you should come to my office hours, or make an appointment with me to come at another time. Email is the best way to contact me.

Quizzes: There will be a small number of short quizzes given during regular class times. These will be announced in advance.

Exams: Examinations will be given during the regular lecture hour on the following dates, covering the listed sections.

Exam 1	Tuesday, February 10	Sections 1.1-1.6, 3.1-3.2
Exam 2	Thursday, March 11	Sections 3.3-3.5, 3.8, 4.1-4.2
Exam 3	Thursday, April 15	Sections 7.1-7.6

The final examination will be held in the usual lecture room on: Monday May 3, 8:00–10:00 am (Section 003) and Thursday May 6, 1:30–3:30 pm (Section 005). University regulations require that you take it at that time. It will cover all sections listed in the class schedule, with additional weighting to sections 8.1-8.3, since these sections will not be covered on the three in-class examinations.

If you cannot take a test at the scheduled time, you should contact me *in advance*.

Withdrawal Policy: Until January 26, there is no record of a grade for dropped courses. From January 27 through March 26, you may withdraw and receive a “W” grade, *no matter what scores you have so far achieved*. After March 26, University regulations specify that you may withdraw only in “very unusual circumstances,” and only with the permission of the Dean. *Avoidance of a low grade is not sufficient reason to obtain permission to withdraw after March 26.*

Grade of Incomplete: The grade of “I” is a special-purpose grade given when a specific task needs to be completed to finish the coursework. This is typically a term paper or other special assignment, so rarely makes sense in a mathematics course. An “I” cannot be given to avoid receiving a low grade.

Calculators: This is a course of mathematical concepts and techniques, not a course of mechanical computation, so we will have little use for calculators. A few of the homework problems may require the use of a basic scientific calculator, which can perform numerical calculations, and can give values of the trigonometric, inverse trigonometric, exponential, and logarithm functions. Such a calculator can be purchased at discount stores for a few dollars. A basic scientific calculator can be used during exams, although it is not necessary to have one. However, since knowing the graphs of the standard functions from trigonometry and calculus is an essential skill, *use of graphing calculators during exams is prohibited*. Use of any calculator with the capability to store formulas or other information is also prohibited during exams.

Academic Misconduct: Cases of academic misconduct are inexcusable and will be punished to the maximum extent possible under University regulations. *Don't do it.* See <http://www.ou.edu/provost/integrity> for more information.

Students with Disabilities: If you have a disability that may interfere with the demonstration of your abilities, please contact me as soon as possible to arrange accommodations necessary to ensure your full participation in the course.

Advice: It is important to think about the subject daily or almost daily (you will learn much more in two hours a day for seven days than in seven hours a day for two days). Mathematics is best absorbed in small bits through repeated exposure, so it is more effective to work the homework problems from one section a few at a time over a period of days, rather than all at once in an extended session. This means you may be working problems from several sections of the book at the same time—this is actually better, since they will reinforce each other. If you approach the homework in this way, you will spend no more total time or effort, and will learn more. Occasional work sessions with fellow students can be very productive, as long as one avoids the pitfall of becoming dependent on others.

Working problems is your most important learning technique, but the exams will also draw on the ideas and key examples given in class. Take careful notes during the lectures, or if this does not work well for you, obtain them from someone else. The lectures provide your road map to learning the subject.

Always use correct mathematical notation. For example, always write “ $\sin(x)$ ” and “ $\cos(x)$ ”, never just “sin”, which makes “sin cos” ambiguous—does it mean the product “ $\sin(x)\cos(x)$ ” or the composition “ $\sin(\cos(x))$ ”? Good notation will help keep you on the right track during exams, but you will only use good notation in a stressful exam situation if you have been using it habitually on your homework problems.

Never write “=” between two mathematical objects of different types. For example, do not equate a vector and a scalar quantity. It *cannot* be correct, and always indicates that you do not really have a clear concept in your head.

Nothing is more important than staying completely caught up; cramming is even less effective in mathematics than in other courses. If you need help, go to office hours or arrange an appointment immediately; do not compound your difficulties by delaying.