

Math 046 - Differential Equations

COURSE SYLLABUS - U04

Lecture: MTWR 1:00pm-2:30pm

Location: Sproul 2361

Class Dates: July 26 - September 26

Instructor: Erin Pearse

Office: Surge 261

Office Hours: MTWR 2:40pm-3:30pm or by appointment

Email: epearse@math.ucr.edu

Text: “Elementary Differential Equations” by William F. Trench.

Also, the associated solutions manual.

Web site: <http://ilearn.ucr.edu/>

This syllabus and all other course materials are available on the web site. Exam dates, homework assignments, homework due dates, and all other course information is available on the web site. If you have questions about this course, you can always contact me by email, but please CHECK THE WEB SITE FIRST.

Also, the web page <http://math.rice.edu/~dfield/pplane.html> offers very useful tools for plotting solutions to differential equations.

VERY IMPORTANT:

Keep all exams, quizzes, and homework. This is a record of your achievement. If you ever need to contest a grade, you must be able to present the original work. It is always possible that a score is improperly recorded or calculated. However, if this occurs, it is the student's responsibility to verify what their score should be, with the original document.

Students have one week from receipt of a graded assignment, to dispute grades.

Late assignments will not be accepted without police or medical documentation. This includes exams. If you will be unable to submit a homework assignment on time, you may always turn it in early. There will be no makeups for missed exams unless notification is given in advance of the test date.

Show your work to ensure full credit for a problem.

Homework: Homework is due Monday 2:30pm, at the end of class, except for the last homework assignment, which will be collected on Thursday, July 24 at the end of class. Any homework not in the collection box at that time is late. After being graded, the homework will be returned via the bins in the hall, next to the Math department office on the second floor of the Surge building. After the 80 minute lecture, I will be available in my office from 2:40 until 3:30. During this time, I invite you to come to me with questions about the lecture, homework, text, grades, or the course material in general.

Although you are encouraged to work on the homework with other people in the class, simply duplicating others' homework is missing the entire point. Working the homework problems is the best way to prepare for the exams; copying another's homework will likely guarantee poor achievement on the exams. *Mathematics is learned by doing, not by listening.*

Simply listening to the instructor and taking notes will likely not help you even half as much as working homework problems.

Tips for the Homework

1. If you get stuck on one of the exercises, do an easier problem from the same section.
2. You will likely find the exercises easier if you complete the reading assignment *first*.
3. If you are looking for practice questions in preparation for an exam, do the homework questions.

Course Material: Roughly, we will be covering the following:

Week 1	§Chapter 1 & 2	First-order DEs
Week 2	§Chapter 4	Applications of 1st-order DEs
Week 3	§Chapter 5	Second-order DEs
Week 4	§Chapter 5 (cont.)	Second-order DEs (cont.)
Week 5	§Chapter 6	Applications of 2nd-order DEs

This schedule may be subject to revision.

Quizzes: The quizzes will be very short versions (20 minutes) of questions similar to what you will find on the exams. They may also include simple questions to test that you have completed the assigned reading, but their primary purpose is to give you an idea of what to expect on the exams. If you have done and understood the homework, you should find the quizzes an easy way to pick up points and boost your grade. You may drop your one lowest quiz score.

Quiz Schedule:

Quiz 1	Thursday	July 29	§1.1 – 2.2
Quiz 2	Tuesday	August 3	§2.5 – 2.6
Quiz 3	Thursday	August 12	§5.1 – 5.2
Quiz 4	Tuesday	August 17	§5.3 – 5.5
Quiz 5	Thursday	August 26	§6.1 – 6.4

Exams: All exams will be held in Sproul 2361. Only calculators with *no* graphical capability or extended memory functions will be allowed. Any instruments capable of symbolic manipulation are strictly forbidden. If you are uncertain whether or not your calculator would be allowed on exam, please see me about it *in advance*. Anyone caught with an illegal calculator during an exam will receive 0% on the exam. *Bring a valid Driver's License or Student ID to the exams as identification will be verified when you turn in your test.* The material covered on the exams may include anything from the homework, lecture notes, and assigned reading.

Partial Credit. Partial credit will be given where indicated. Some short answer questions may not allow for partial credit.

Extra Credit. There will be some extra credit/bonus questions on the exam. Successfully answering these questions will add to your total score, potentially enabling you to obtain

over 100%. These questions are intended to be more challenging than the others, and should thus probably be left for last.

Exam Schedule:

Midterm 1 Monday August 9 1:00pm-2:30pm
 Midterm 2 Thursday August 19 1:00pm-2:30pm
 Final Exam Friday August 27 1:00pm-3:00pm
 Note that classes start at 1pm sharp, not at 1:10.

Grades: The grade breakdown is as follows:

Homework 10%
 Quizzes 20%
 Midterm 1 20%
 Midterm 2 20%
 Final Exam 30%

Cheating policy: Anyone caught cheating will be immediately reported to Campus Discipline for academic dishonesty.

During exams, I understand that it is natural for your eyes to wander while you are thinking about a problem. However, if your eyes wander over someone else's desk, I will make a note of your name and the other person's name. This is not an accusation, but I will check the two exams against each other later. If they bear signs of cheating, an accusation will be made at that point.

Homework Assignments

For the first two weeks, the following homework will be assigned:

Section	Reading	Problems
§1.1	1-7	none
§1.2	8-14	2(abcf),3(abdh),4(af),5(cd)
§1.3	16-20	1,2,7,9 also plot 7,9,11 online
§2.1	26-36	3,5,9,10,32,36,46(ab)
§2.2	40-47	1-4,11,12,37
§2.5	66-73	1-4,12,13
§2.6	76-84	4,6-10
§4.1	122-130	1,6-8,10,12,13,17,21-23
§4.2	133-139	2,5,7,11-13,18
§4.3	142-151	3,5,6,17,18,20
§4.4	153-165	none

Midterm 1 will cover this material. Homework for the latter weeks will be assigned later.