MATH 285: Differential Equations

Sections 4001 and 4002, Summer 2014
Section 4001: MTWRF 3:10 pm - 4:45 pm in AB 101
Section 4002: MTWRF 5:30 pm - 7:05 pm in AB 206

This document states conditions under which you will either pass or fail this course. The rules are binding for the instructor as well as for the students. Please read it **very carefully** as it will be used as reference in any eventual future disputes. Do not hesitate to ask questions *during the first week of classes.*

Instructor

Dr. Pavel Solin
Office: DMS 217
E-mail: `solin@unr.edu`

WebAssign

We will be using WebAssign for homeworks and tests. The student enrollment key for this course is `unr 1746 3164` (Section 4001) and `unr 7259 1773` (Section 4002). You will need to pay $75 for access which includes electronic copy of textbook. In other words, *you do not need to purchase a hardcopy of the textbook.* NOTE: Make sure that you enroll in the correct session, otherwise you may need to pay the fee again.

Office hours

MTWRF 4:50 pm - 5:25 pm in DMS 217, or by appointment

Textbook

Dennis G. Zill: *A First Course in Differential Equations with Modeling Applications*, 10th Edition.

Prerequisites

I will assume that you have a thorough knowledge of the material covered in your Precalculus and the first two Calculus courses. In particular, it is essential that you have a working knowledge of techniques of differentiation and integration. You must know basic functions (polynomials, logarithms, exponential and goniometric functions, etc.) including basic rules for working with them, be able to find local extrema, plot graphs of these functions, and know their values at important points (such as $\exp(0)$, $\log(0)$, $\sin(\pi/2)$ etc.).

Course objectives

In this course, a wide range of qualitative and quantitative methods for the solution of ordinary differential equations will be developed and analysed. Emphasis is on practical problem solving

skills but standard theory is covered. During the course you will make considerable progress in the following areas:

1. Apply standard techniques to analyze and solve ordinary differential equations: using analytical, numerical and qualitative methods; using the method of the Laplace transform.

2. Be able to model with differential equations and interpret the results of their mathematical analysis.

3. Understand the fundamental difference between linear and non-linear differential equations.

4. Improve your ability to communicate Mathematics effectively in written form.

Homeworks

Homeworks are an integral part of this course. Once a homework is assigned, the solution must be turned in at the beginning of the second-next class (i.e., in one week), unless stated otherwise. Everyone is required to work alone and no late homeworks will be accepted. The homework problems will serve as a basis for tests. If you encounter any problems, you are very welcome to consult with me during the office hours. The homeworks will count for 40 % of your final grade.

Grading policy

In addition to homeworks, there will be two 75 minute tests and a comprehensive final test. Your final score will be calculated as follows:

Homeworks: 40 %,
Test #1: 20 %,
Test #2: 20 %,
Final Test: 20 %.

Scale: A (91-100 %), B (81-90 %), C (71-80 %), D (61-70 %).
No books, notes, calculators or other electronic devices are allowed on exams.

Make-up policy

Except in the case of documented emergency, or an absence caused by a university-sponsored activity, a makeup test will not be given. The burden of proof regarding the absence rests with the student. Students who were absent with a documented emergency or university-sponsored activity must notify me *at least one day before the test takes place* to make arrangements for taking a makeup exam. Without exceptions, *no makeup is possible if you contact me on the day of the test.*

Civility statement

Every student is expected to come to every class and be well prepared. Cell phones need to be turned off during every class. A ringing cell phone is a disturbance to the class. My office hours are the right time to visit me and ask questions or help. You are very welcome to visit me outside the office hours as well, but I may not be in my office because of other duties, meetings, etc.

Attendance and preparation policy

I expect everyone to attend every class and arrive on time. It is required that at any time of semester you are familiar with all material that was covered so far. It will help you tremendously to prepare yourself for every class, even if only for 30 minutes. You cannot succeed in this course without working during the semester. The homeworks are an absolute minimum, and you cannot expect an A if you do just them.

Important dates

Classes Begin: July 14
Test #1: July 28 (no make-ups)
Test #2: August 11 (no make-ups)
Final exam: TBA (no make-ups)

Note: The dates for tests are indicative, the actual dates may vary by up to one week both directions. For more dates see the UNR academic calendar.

Important message for students with disabilities

The Mathematics Department is committed to equal opportunity in education for all students, including those with documented physical disabilities or documented learning disabilities. University policy states that it is the responsibility of students with documented disabilities to contact instructors during the *first week of each semester* to discuss appropriate accomodations to ensure equity in grading, classroom experiences and outside assignments.

Web browsing, emailing, and texting during the class

Using a computer, tablet, smart phone or the like during class for web browsing, emailing, or any activity not related to the course is viewed as an intolerable act of disrespect to fellow students, the instructor, and the University. It will result into an immediate F in the course. The same applies to texting or making phone calls during the class.

Academic dishonesty

Cases of academic dishonesty are viewed as a serious violation of the student code of conduct. Examples of academic dishonesty include, but are not limited to: copying homework assignments, cheating on quizzes, and/or including information in written assignments or presentations without proper citations. Ignorance is not an excuse for plagiarism. If you are not sure whether you need to provide a source for a piece of information or how to cite a source,

ask the instructor. Any incidents of any type of academic dishonesty will result in a student receiving an F for the course. See the Student Conduct Information section of the UNR General Catalog for specific University policies and procedures regarding academic dishonesty.

Academic success services

Academic Success Services: Your student fees cover usage of the Math Center (784-4433 or www.unr.edu/mathcenter/), Tutoring Center (784-6801 or www.unr.edu/tutoring/), and University Writing Center (784-6030 or http://www.unr.edu/writing_center/. These centers support your classroom learning; it is your responsibility to take advantage of their services. Keep in mind that seeking help outside of class is the sign of a responsible and successful student.

Audio and video recording

Surreptitious or covert video-taping of class or unauthorized audio recording of class is prohibited by law and by Board of Regents policy. This class may be videotaped or audio recorded only with the written permission of the instructor. In order to accommodate students with disabilities, some students may be given permission to record class lectures and discussions. Therefore, students should understand that their comments during class may be recorded.