

MAT 414-001 Introduction to Ordinary Differential Equations Spring 2017

MWF 11:40 am - 12:35 pm Carnegie 115

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Office Hours: Mon, Wed, Fri 1 pm - 3 pm

Mathematics Prerequisite: Calculus through MAT 397. Mastery of differential and integral calculus is essential for working with differential equations. In particular, students are expected to be able to take partial derivatives, set up and evaluate integrals, do integration by parts, and work with vectors and matrices. Credit will not be given for both MAT 414 and MAT 485.

Textbook: *Elementary Differential Equations*, 10th edition, William E. Boyce and Richard C. DiPrima.

Course Description: We will cover parts of Chapters 1-3, 6, and 7 including analytic and qualitative aspects of first-order differential equations (linear and nonlinear), second-order linear equations, Laplace transforms, and systems of first order linear equations.

Grading: Course grades will be based on quizzes (20%), two in-class exams (25% each), and a cumulative final exam (30%). The two in-class exams are tentatively scheduled for Feb 20 and Apr 10. There will be no makeups for the in-class exams or the final exam. If you have a documented excused absence for one of the in-class exams, your grade on the relevant portion of the final will be used to cover the missed exam. The final exam is scheduled for Tuesday, May 9, 5:15 pm - 7:15 pm.

Quizzes: There will be a quiz on every Monday unless an exam is scheduled. There will be no make-up quizzes, but the two lowest quiz scores will be dropped.

Homework: The key to success in this course is to master the homework. Problems from the textbook will be assigned at the end of each class. Although homework will not be collected, it is absolutely vital that you do the problems in order to learn the course material.

Calculator Policy: You are allowed to use a graphing calculator (such as TI-83) on all quizzes and exams. Symbolic calculators (such as TI-89) may not be used.

Cell Phones: All electronic devices other than calculators should be turned off and put away during class. Calculators on cell phones are not to be used on tests or quizzes.

Attendance: You are expected to attend and participate in class. Missing class is the most common reason for poor performance in the course. If you must miss a class, you are responsible for obtaining notes for that class from a student who attended. It is also your responsibility to find out about any announcements made in class.

Students with Disabilities: If you believe that you need accommodations for a disability, please contact the Office of Disability Services (ODS) at

<http://disabilityservices.syr.edu>

located in Room 303 of 804 University Avenue, or call (315) 443-4498 for an appointment to discuss your needs and the process for requesting accommodations. ODS is responsible for coordinating disability-related accommodations and will issue students with documented Disabilities Accommodation Authorization Letters, as appropriate. Since accommodations may require early planning and generally are not provided retroactively, please contact ODS as soon as possible. You are also welcome to contact me privately to discuss your academic needs although I cannot arrange for disability-related accommodations. Making arrangements with ODS takes time. Do not wait until just before the first exam.

Academic Integrity: Syracuse University sets high standards for academic integrity. Those standards are supported and enforced by students, including those who serve as academic integrity hearing panel members and hearing officers. The presumptive sanction for a first offense is course failure, accompanied by the transcript notation “Violation of the Academic Integrity Policy”. Students should review the Office of Academic Integrity online resource “Twenty Questions and Answers About the Syracuse University Academic Integrity Policy” and confer with instructors about course-specific citation methods, permitted collaboration (if any), and rules for examinations. The Policy also governs the veracity of signatures on attendance sheets and other verification of participation in class activities. For more information and the complete policy, see <http://academicintegrity.syr.edu>. For this course in particular, the use of any notes during quizzes and exams is considered to be a violation of the academic integrity policy. A first violation will result in a zero on the quiz or exam. A second violation will result in failing the course.

Religious Observances Policy: SU religious observances policy recognizes the diversity of faiths represented among the campus community and protects the rights of students, faculty, and staff to observe religious holidays according to their tradition. Under the policy, students are provided an opportunity to make up any examination, study, or work requirements that may be missed due to are religious observance provided they notify their instructors before the end of the second week of classes. An online notification process is available through MySlice (Student Services → Enrollment → My Religious Observances) from the first day of class until the end of the second week of class.

Tips for success in this course:

- Don't fall behind! The material builds upon itself rapidly. If you are having difficulties keeping up with the material, see me immediately to discuss the problem.
- It is absolutely essential that you understand how to solve all the assigned problems. Once you understand how to solve a problem, write your solution down neatly and in full detail with explanations that make your reasoning clear. This will make your old homework assignments more useful to you when you are studying for an exam. In addition, you will get practice writing answers for quizzes and exams.
- Ask questions in class, during office hours, by email.
- Discuss problems, work on homework, and study with other students.
- Expect to work hard. Don't get discouraged if you find some of the material difficult. Be persistent and patient.