

MAT 414 — Introduction to Ordinary Differential Equations
Spring 2016, Section M002

Instructor: Professor Moira McDermott
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Office: 313E Carnegie (443-1481)
Time & Place: TTh 11:00–12:20 pm, Carnegie 122
Office hours: MW 2:30-3:30, T 3:30-4:30, Th 4:00-5:00, and by appointment

Prerequisites: Calculus through MAT397. 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 485.

Textbook: *Elementary Differential Equations*, 10th ed., William E. Boyce and Richard C. DiPrima. We will cover parts of Chapters 1–3, 6, and 7 including: the 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 and homework (20%), two in class exams (25% each), and a cumulative final exam (30%). The two in class exams are tentatively scheduled for **February 25 and April 21**. 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.

The final exam is scheduled for **Friday, May 6, 8:00-10:00 am**. This information will also be available on MySlice.

Quizzes: There will be weekly quizzes. There will be no make-up quizzes, but at least one quiz score will be dropped. All excused absences for medical or family emergencies must be documented. Travel plans are not a valid excuse for an absence, so plan accordingly.

Homework: The key to success in this course is to master the homework. Homework from the textbook will be assigned at each class and collected weekly. **Late homework will not be accepted.** A portion of the homework problems will be graded for accuracy. You are encouraged to discuss the homework problems with your classmates and to work together, but the work you submit must be your own. You will also be assigned problems to complete on WebWork.

Attendance: You are expected to attend and participate in class. Missing class is among the most common reasons for poor performance in the course (not doing the homework is another one). If you 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 concerning homework, quizzes, or exams made during the class.

Academic Integrity: The Syracuse University Academic Integrity Policy holds students accountable for the integrity of the work they submit. Students should be familiar with the Policy and know that it is their responsibility to learn about instructor and general

academic expectations with regard to proper citation of sources in written work. The policy also governs the integrity of work submitted in exams and assignments as well as the veracity of signatures on attendance sheets and other verifications of participation in class activities. Serious sanctions can result from academic dishonesty of any sort. For more information and the complete policy, see <http://academic.integrity.syr.edu>.

Complete academic honesty is expected of all students. Any incidence of academic dishonesty, as defined by the SU Academic Integrity Policy, will result in both course sanctions and formal notification of the College of Arts & Sciences. (A first violation will result in a 0 on the quiz or exam. A second violation will result in failing the course.) I encourage you to work together on homework and discuss problems and their solutions, but you must write up your solutions individually. What you write must reflect *your own understanding* of the problems. Copying a homework solution, in part or in full, is considered a violation of academic integrity. If you have any questions about the differences between working together and copying or how to document sources, please see me.

Students with Disabilities: Students who may need academic accommodations due to a disability are encouraged to discuss their needs with me at the beginning of the semester. In order to obtain authorized accommodations, students should be registered with the Office of Disability Services (ODS), 804 University Avenue, Room 309, 315-443-4498, and have an updated accommodation letter for the instructor. Accommodations and related support services such as exam administration are not provided retroactively and must be requested in advance. For more information about services and policy, see <http://disabilityservices.syr.edu>.

Faith Tradition Observance: SU's religious observances policy can be found at http://supolicies.syr.edu/emp_ben/religious_observance.htm. Under the policy, students are provided an opportunity to make up any examination, study, or work requirement that may be missed due to a religious observance provided they notify their instructors before the end of the second week of classes. There is an online notification process available on MySlice.

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, and on Piazza.
- 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.