

MAT 414 — Introduction to Ordinary Differential Equations
Fall 2018, Section M001

Instructor: Professor Moira McDermott

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Office: 313E Carnegie (443-1481)

Time & Place: MW 12:45–2:05 pm, Carnegie 200

Office Hours: posted on Blackboard and by appointment at <https://profmcd.youcanbook.me>

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 **October 3 and November 14**. 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, December 14, 10:15 am -12:15 pm**.

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.

Electronic Distractions: Phones, laptops, and tablets are not allowed to be out during class. Students who repeatedly violate this policy will be asked to leave the room.

Academic Integrity: The Syracuse University Academic Integrity Policy holds students accountable for the integrity of all 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. The Violation and Sanction Classification Rubric establishes recommended guidelines for the determination of grade penalties by faculty and instructors, while also giving them discretion to select the grade penalty they believe most suitable, including course failure, regardless of violation level. Any established violation in this course may result in course failure regardless of violation level. For more information and the complete policy, see <http://academicintegrity.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. Consulting outside sources (online solutions, Chegg, etc.) will hamper your ability to learn the material. **Copying a homework solution, in part or in full, from any source, including the Internet, 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: If you believe that you need academic adjustments (accommodations) for a disability, please contact the Office of Disability Services (ODS), , located in Room 309 of 804 University Avenue, or call (315) 443-4498 or TDD: (315) 443-1371 for an appointment to discuss your needs and the process for requesting academic adjustments. ODS is responsible for coordinating disability-related academic adjustments and will issue students with documented Disabilities Accommodation Authorization Letters, as appropriate. Since academic adjustments may require early planning and generally are not provided retroactively, please contact ODS as soon as possible.

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.