

MAT 414: Intro to Ordinary Differential Equations (Section M004) Spring 2014

Instructor: Peter Horn, Assistant Professor of Mathematics

email: pdhorn@syr.edu

Office: 304A Carnegie

Phone: 315-443-1700

Course supervisor: Moira McDermott, momcderm@math.syr.edu

Office hours: Monday - Thursday 3:15 - 4:15, and by appointment.

Lecture: TTh 12:30 - 1:50, 306 Carnegie

Text: *Elementary Differential Equations* by Boyce & DiPrima, 10th edition, Wiley. ISBN 9780470458327.

Prerequisites: MAT 397 or graduate standing in mathematical sciences. Credit will not be given for both MAT 414 and 485. Students are expected to be able to take partial derivatives, set up and evaluate integrals, and do integration by parts.

Course description: We will cover parts of Chapters 1-3, 6, and 7. We will study differential equations of first and second order and also systems of first-order equations. A number of methods, including the Laplace transform, will be used to solve such equations and to understand the behavior of solutions. Applications in sciences and engineering will also be considered. Detailed class schedule will be posted on the course webpage.

Course website: Please check <https://pdhorn.expressions.syr.edu/spring2014mat414/> for any homework, handouts, or other information.

Grading policy: Homework and quizzes (20%), two midterm exams (25% each), and one final exam (30%). Good mathematical exposition is expected on all written assignments.

You may work together on the homework, but you are required to hand in your own work. Homework will be assigned once a week and may consist of written and online components. Written homework assignments must be turned in directly to Professor Horn in class and will be graded partly for correctness and partly for completion. No late work will be accepted.

Quizzes will be given each Thursday and will be similar to the homework. Quizzes will be given at the beginning of class, and unexcused absences and tardiness will result in a zero for that quiz. Quizzes will be graded for accuracy.

The two lowest grades among homework and quizzes will be dropped.

The exams are scheduled tentatively for:

- First midterm exam: Tuesday, February 18, in class
- Second midterm exam: Tuesday, April 1, in class
- Final exam: Tuesday, May 06, 8:00am-10:00am, 306 Carnegie

Please note that the final exam slot is scheduled by the registrar and is subject to change.

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

Attendance policy: Regular attendance is highly recommended, but roll will not be taken formally. Whether or not you attend class you are responsible for all material covered, homework turned in, quizzes taken, and announcements made in class. If you will miss class for a religious reason, **you must notify me within the first two weeks of the semester.**

Disability policy: If you believe that you need 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 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.

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 a religious observance provided they notify their instructors before the end of the second week of classes. For fall and spring semesters, 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.

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". The standard sanction for a first offense by graduate students is suspension or expulsion. 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. Additional guidance for students can be found in the Office of Academic Integrity resource: "[What does academic integrity mean?](#)"

Any form of cheating will not be tolerated in this course. First offenses in cheating will result in a failing grade on that assignment, and subsequent offenses will be reported to your dean.

How to succeed: Here are a few basic suggestions for how to succeed in this course.

1. Know how to solve each assigned homework problem.
2. Ask questions at the earliest sign of confusion.
3. Stay caught up. Mathematical concepts build on each other cumulatively.
4. Form a study group.
5. Study early and often, for shorter lengths of time than you would if you crammed.
6. Read ahead for key definitions.
7. Once you understand a solution, practice communicating your solution effectively.

Use of student work: In compliance with the federal Family Educational Rights and Privacy Act, registration in this class is understood as permission for assignments prepared for this class to be used anonymously in the future for educational purposes