

Differential Equations (MAT 414)

Supplemental Syllabus for Section 15887

Instructor: Dr. Margaret Doig, Carnegie 317H, midoig@syr.edu

Course Supervisor: Prof. Dan Coman, Carnegie 317D, dcoman@syr.edu, 315-443-1496

Office hours: TBA

Website: on Blackboard

Course Goals: This course is designed to introduce you to the beauty and power of differential equations and prepare you for more advanced work in math, science, or engineering. Our goals include:

- Study a catalog of basic physical models such as exponential growth and decay, spring-mass systems, and electrical circuits.
- Develop methods to solve first-order equations (linear and nonlinear), second-order linear equations, systems of first-order linear equations, and the Laplace transform.
- Expand critical thinking and problem solving skills to apply the given techniques to unfamiliar problems, including a wide variety of applications.
- Evolve a sophisticated understanding of how a differential equation elucidates the underlying physical process that the equation is intended to model.

Student Responsibility: As an adult, you are responsible for your own education. We are here to help, but the final result will depend more on you than on us. You will find the course much easier and more enjoyable if you attend every class and recitation on time and prepared. Be serious about your homework and studying. Ask questions and look for help regularly before you need it, not after.

Format: We will cover Ch. 1-3, 7, 6 in Boyce and DiPrima's *Elementary Differential Equations, 10th ed.* I will introduce new material during lectures, you will develop a more in-depth understanding of it by doing homework problems, and you may review it and ask questions during office hours. I will regularly give a short assignment for the next class and check it with an attendance quiz. There will be longer quizzes each week and exams three times, including a cumulative final.

Evaluation and Grading: In-class exams will be Oct. 8 and Nov. 19, each worth 25%. The final exam will be Friday, Dec. 18, 3:00-5:00pm, and worth 30%. Quizzes and homework will be 10% each. Attendance quizzes will be extra credit. There will be no make-up quizzes or tests, but the exams and overall grade may be curved.

Additional Information: This is a supplemental syllabus. Please review the main course syllabus for additional information, including accommodations for absence, religious observances, and disabilities. Pay special attention to the section on Academic Integrity.