

APM 2555, Winter 2018

INSTRUCTOR: Barry Turett
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CLASSROOM AND TIME: 163 SFH, MWF 2:40 - 3:47 p.m.

OFFICE HOURS: MWF 1:30-2:30 p.m. or by appointment

COURSE (CATALOG) DESCRIPTION: Introduction to ordinary differential equations, Laplace transforms, linear systems, matrices, vectors, independence, Eigenvalues and eigenvectors, and applications. Replaces (APM 257-ended) and students cannot receive credit for both (APM 255 or APM 2555) and (APM 257-ended). (Formerly APM 255)

PREREQUISITES: A 2.0 or better in MTH 1555 or MTH 155 or an equivalent course at another school. Prerequisites are strictly enforced: if you do not meet the prerequisite, you will not be permitted to remain in the course. In order to do well in this course, you need to have the skills developed in the first two semesters of calculus of a single variable.

COURSE OBJECTIVES: The student should learn methods of solving first- and second-order differential equations; become familiar with mathematical models that lead to these types of differential equations; and master the necessary linear algebra to apply these methods and analyze solutions.

TEXT: *Differential Equations and Linear Algebra*, 4th Edition by C. H. Edward, D. E. Penney, and D. T. Calvis, published by Pearson.

CALCULATOR POLICY: Although you may use a calculator on homework assignments, calculators will not be allowed on exams.

EXAMS: There will be three 100-point exams and a 200-point final exams. Tentatively:

Exam 1 will be on Friday, February 2.

Exam 2 will be on Friday, March 9.

Exam 3 will be on Friday, April 6.

The final exam will be on Thursday, April 19, 3:30-6:30 p.m.

The course grade will be determined by the grades on the three in-class exam and the final exam.

There will be no make-up exams. In case there is a legitimate reason for missing an in-class exam, a grade for that exam will be determined by the portion of the final exam corresponding to the missed material. If no legitimate reason is presented, a grade of 0 will be assigned for that exam.

In case the university is officially closed on a scheduled in-class exam date, the exam will be held on the next class date that the university is officially open.

Any questions about the grading of the exams must be raised with the instructor within 10 work days of their return. Any questions about a course grade must be raised with the instructor within 10 work days of its posting by the Registrar.

The penalty for being convicted of cheating on an exam is a course grade of 0.0, in addition to any penalties imposed by the Academic Conduct Committee.

TENTATIVE SYLLABUS:

Chapter 1: First-Order Differential Equations	Sections 1.1-1.2, 1.4-1.5
Chapter 2: Mathematical Models and Numerical Methods	Sections 2.1-2.3
Chapter 3: Linear Systems and Matrices	Sections 3.1-3.6
Chapter 4: Vector Spaces	Sections 4.1-4.4
Chapter 5: Higher-Order Linear Differential Equations	Sections 5.1-5.6
Chapter 10: Laplace Transform Methods	Sections 10.1-10.5

IMPORTANT DATES: The Registrar sets dates for “no record” drops and official withdrawal. Current information with the important dates for Winter 2018 can be found at: www.oakland.edu/registrar/important-dates