

MATH 225: Linear Algebra and Linear Differential Equations Spring 2020

Instructor Yuan Gao

Office Hours and Location: Monday 3 pm to 4 pm, Wednesday 3 pm to 4 pm. KAP 262B.

Email: gao403@usc.edu

Course Description: Math 225 is an introductory course on linear algebra and linear differential equations. The first half of the course focuses on linear algebra, where we introduce the notions of matrices, vector spaces, linear transformations. The second half of the course introduces linear differential equations discusses how we can use tools from linear algebra to solve linear differential equations.

Prerequisite: Math 126 or Math 127 or Math 129

Textbook: Goode & Annin, Differential Equations and Linear Algebra, 4th edition.

Homework will be assigned weekly and should be submitted in discussion class.

Quizzes will be given weekly in discussion class, except the first two weeks and the final exam weeks.

Exams: 1 Midterm, 1 Final. The midterm exam is given in one lecture in the middle of the semester, while the final exam is a 2-hour exam.

Grading Policy: 20% homework, 20% quizzes, 25% midterm, 35% final.

Disability Services: Any student requesting accommodations based on a disability is required to register with [Disability Services and Programs \(DSP\)](#) each semester. A letter of verification for approved accommodations can be obtained from DSP. Please be sure the letter is delivered to me as early in the semester as possible. DSP is located in 301 STU and is open 8:30 a.m.-5:00 p.m., Monday through Friday.

<https://dsp.usc.edu>

Phone: 213-740-0776

TDD only: 213-740-6948

Fax: 213-740-8216

Email: ability@usc.edu

Coverage of materials:

- Sections 2.1 - 2.6: Matrices and linear equations.
- Sections 3.3 - 3.4: Determinant.
- Sections 3.1 - 4.7: Vector spaces.
- Sections 6.1 - 6.5: Linear transformations.
- Sections 7.1 - 7.3: Eigenvalues and eigenvectors.
- Sections 1.2 - 1.6: First order linear differential equations.
- Sections 8.1 - 8.4: n-th order linear differential equations.
- Sections 9.1 - 9.4: Systems of linear differential equations.