MATH 307 — LINEAR ALGEBRA AND DIFFERENTIAL EQUATIONS

Instructor: Kenny Corea kcorea@hawaii.edu

Lectures: TR 1:30-2:45 pm Watanabe 420

Office Hours: MTWR 11-12 pm Keller 402E

Book: *Linear Algebra and Differential Equations*, by Peterson and Sochacki.

Course description: Introduction to linear algebra, application of eigenvalue techniques to the solution of differential equations.

Prerequisites: 242 or 252A, or consent.

Course management: Course announcements and materials will be available on our course page: `https://math.hawaii.edu/~kcorea/courses/307-f2022/`.

Grades: Your grade is broken down as follows:

Homework	30%
Exams	40% (2x20%)
Final	30%

Homework: There will be written homework assigned frequently. All assignments are weighed equally. A subset of each problem set will be graded. Your lowest three homework scores will be dropped.

Exams: There will be two midterm exams and a final exam. Each exam will cover the most recent material, and the final will be cumulative. Your lowest exam score will be replaced by your final score, only if it improves your overall grade.

Exam 1	Thursday 8/29 Lecture
Exam 2	Thursday 11/10 Lecture
Final	Tuesday 12/15 12-2 pm Watanabe 420

Make-up Policy: I will treat each make-up request on case-by-case basis. In general, assignments and examinations will not be excused. This is why there is a lowest-homework-dropped policy, and an exam-grade-replacement policy. If you know you will miss an exam in advance, we can schedule you to take it earlier. But you must give me ample notice.

Academic integrity: You are encouraged to work together, but the work you submit must be your own. Cheating, plagiarism, and academic dishonesty will not be tolerated.

KOKUA: I am happy to work with you and the KOKUA Program (Office for Students with Disabilities), if you need course accommodations. For more information visit their webpage `https://hawaii.edu/kokua/`.

Tentative Schedule: We will cover chapters 1,2, 5 and 6 from the Peterson and Sochacki text. The following is a rough timeline of what we are covering each week.

Week	Topic
1	Systems of Linear Equations, Matrices
2	Matrix Operations, Inverses, Special Matrices
3	Determinants, *Labor Day*
4	Vector Spaces
5	Subspaces, Linear Independence, and Bases
6	Dimension, Rowspace, Columnspace, Nullspace **Exam 1**
7	Wronskian, Linear Transformations
8	Algebra of Linear Transformations, Matrix of a Linear Transformation
9	Eigenvalues and Eigenvectors
10	Similar Matrices, Diagonalization, Jordan Canonical Form
11	Systems of Linear Diff. Eq's, *Election Day, Veteran's Day*
12	**Exam 2**, Homogeneous Systems with Constant Coefficients
13	*Thanksgiving Break*
14	Nonhomogeneous Linear Systems
15	2x2 Nonlinear Systems
16	Overflow
17	**Final's Week**