Math 244: Linear Analysis I

Spring 2019

Math 244 is a first-quarter course in linear analysis. We will cover separable and linear ordinary differential equations, systems of linear differential equations, and the linear algebra necessary to solve such equations and systems. The overall goals of the course are to:

▶ Develop an understanding of the elementary theory of ordinary differential equations and their solutions in the context of separable and first-order linear ordinary differential equations, and recognize situations where these equations arise in selected mathematical models

▶ Become familiar with the terminology and methods of solution of higher-order linear differential equations, especially methods for constant coefficient homogeneous and forced equations, and understand how these solution methods apply to selected second-order linear models

▶ Develop an understanding of linear algebra in Euclidean space and how vectors and matrices are used to solve systems of equations, both algebraic and differential

Instructor Information

NAME: Robert Easton
EMAIL: `rweaston@calpoly.edu`
OFFICE: 25-320
PHONE: (805) 756-1679

Course Website

We have a dedicated course website, where you can find the homework assignments, information on the latest quizzes (including solutions), exam information, and the topics schedule for the quarter.

`http://robertweaston.com/teaching/math244`

Important Dates

April 2	Classes begin
April 26	Exam I
May 17	Exam II
May 27	Academic holiday (Memorial Day observed)
June 7	Classes end
June 10	Final Exam

Textbook

The course will follow Chapters 1-7 in *Differential Equations and Linear Algebra, 4th ed.*, by Stephen Goode and Scott Annin. All homework problems will be taken from this book.

Homework

Homework is assigned weekly, with problems selected from the course textbook. Homework will not be collected, but quiz and exam problems will be based on the homework. It is important to work through enough of the assigned problems until you feel comfortable with all of the material.

Exams

There are three types of exams throughout the quarter: weekly quizzes, in-class midterm exams, and a final exam. All exams are **closed book** and **closed notes**, and **calculators are not allowed**.

There are two in-class midterm exams, tentatively scheduled for:

- ► Exam 1: Friday, April 26
- ► Exam 2: Friday, May 17

The final exam is scheduled for:

- ► 10:10am-1pm on Monday, June 10

Make-up Policy

If you have a scheduling conflict with an exam, contact me *prior* to the exam in order to schedule a make-up. Exams may be taken *early* or *the following class day*. Exams taken two or more class days late will be subject to a **late exam penalty** of 10% per day. All make-ups must be completed within one week of the original exam date.

Accommodations

If you have a disability for which you are or may be requesting an accommodation, you are encouraged to contact me as well as the Disability Resource Center (Building 124, Room 119; Tel: (805) 756-1395), as early as possible in the term.

Grading

The overall course score is determined as follows:

- ► Quiz Average (lowest dropped): 25%
- ► Exam I: 20%*
- ► Exam II: 20%*
- ► Final Exam: 35%*

If your (percentage) score on your Final Exam is higher than your (percentage) score on an in-class exam, then the worth of your Final Exam will increase by 5% and the worth of the in-class exam will decrease by 5%. This applies to both exams, so if your Final Exam score is better than both of your in-class exams, then your Final Exam will be worth 45% of your Overall Score and each of your two in-class exams will be worth 15%.