

Math 434 Advanced Linear Algebra, Spring 2016

Basic Info:

Meeting Times/Locations

- Section 0001: MWF Roop 212, 2:30-3:20

Instructor: Dr. Joshua Ducey

Email: duceyje@jmu.edu

Website: <http://educ.jmu.edu/~duceyje>

Office Location: Roop 339

Office Hours:

- Monday 10:10–11:00
- Wednesday 12:20–1:10
- Friday 11:15–12:05
- By appointment

Book: Linear Algebra Done Right, by Axler.

Course Content:

We will cover topics in linear algebra from the first 8 chapters of the text, with perhaps some additional material if time permits.

Homework:

I will assign homework roughly weekly. Your grade will be based not only on correctness and completeness, but also on clarity and style of presentation. Mathematics is all about understanding well and communicating well.

Board Problems:

Each day at the start of class I will randomly call on one of you to solve a board problem in front of the class. These board problems are given to you ahead of time so that you may work on them at home and have a beautiful solution ready to present to your classmates. I will not be impressed with you figuring out these problems “on the fly.” The correctness of your solution, and also your clarity and style of presentation will be taken into account.

Tests:

There will be three exams this semester: two in-class tests and a cumulative final exam.

Project:

There will be a “group project,” including presentations to the class

near the end of the semester. Details will be announced in class.

Some Tips For Success:

- **Take the homework very seriously.** Consistent, regular, hard work on the homework problems is absolutely the best thing you can do to succeed in this class. Slate out time to do all of the problems assigned, not just the ones that are collected.
- Don't let yourself fall behind! If you feel like you are struggling, make time to see me immediately.
- Read the book carefully, with a pencil and paper nearby.
- Come to class each day. Caffeinate yourself if necessary.
- Linear algebra is some of the most useful (and beautiful) mathematics that you can learn. The more time you spend thinking about linear algebra, discussing it with your classmates, the better you will do in this course. Make the material your own! Have a favorite matrix, application, etc.

Getting Help:

You are encouraged to work on homework with your classmates. However, anything that you turn in to me must be written up independently and in your own words. My office hours are fixed times when I will be in my office to help you, but you can also make an appointment to see me at a different time (just email me).

Evaluation:

Homework: 30%

Board Problems: 5%

Tests: 40%

Project: 5%

Cumulative Final Exam: 20%

Grade Scale:

[90 – 100] A- to A
[80 – 90) B- to B+
[70 – 80) C- to C+
[60 – 70) D- to D+
[0 – 60) F

Final Exam Time:

- Section 0001: Monday 5/2/2016, 1:00-3:00

General University Policy: www.jmu.edu/syllabus

MATH 434. Advanced Linear Algebra

3 credits. *offered Spring* A proof-based linear algebra course covering such topics as vector spaces, linear transformations and matrices, eigenvalues and eigenvectors, inner product spaces, and canonical forms. *Prerequisites: MATH 245 and either MATH 238 or MATH 300.*