

Math 416 Section D13/14 – Spring 2021

Instructor: Steve Bradlow bradlow@illinois.edu

Office hours: Open Zoom session 10am-11am on Thursdays, or by appointment

Course Content: Math 416 is a rigorous, abstract treatment of linear algebra. Topics to be covered include vector spaces, linear transformations, eigenvalues and eigenvectors, diagonalizability, and inner product spaces. The course concludes with a brief introduction to the theory of canonical forms for matrices and linear transformations.

Regular class time: 11:00am-11:50am CST on MWF

Textbooks:

- *Linear Algebra*, fourth edition, by S. H. Friedberg, A. J. Insel and L. E. Spence.
- *A First Course in Linear Algebra* by R. A. Beezer. (Free online text)

How the course will work: This course will be entirely online. You will need the following **technology** to access all components of the course:

- **Internet access** with a connection that's reliable enough to support zoom sessions. This will be needed for class sessions, office hours, and also for proctoring of tests.
- **Computer with a camera** or some other device that can be used to join zoom sessions.
- Smart phone with **document scanning app**, or any other way to scan documents and convert them to pdf's that can be uploaded. This will be needed for homework and also for the quizzes, midterms, and final exam.

Instead of attending in-class lectures you will learn the course material by

- reading the **textbook(s)**
- watching short **webcasts** that have been prepared specially for this course
- taking weekly **quizzes**
- doing the **homework**

The above four activities will be supplemented by **online discussion** sessions with an instructor. These sessions will be run on Zoom during the advertised class times on Mondays, Wednesdays, and Fridays. During these sessions you will do guided exercises based on the material covered that week and will also have a chance to discuss other aspects of the week's work. Part of the class time on Fridays will also be used for a weekly quiz.

How to get started

All course material will be available online and will be managed by the Moodle Learning Management System. To access the course:

- Visit <http://courses.las.illinois.edu>

- Log in with your netid and active directory password
- Select MATH 416 D13/D14 SP21: Abstract Linear Algebra (Bradlow, S) (this should be one of your courses listed)
- Read the course information on the Syllabus page

Homework: Weekly problem sets will be due at midnight on Thursdays. Some (possibly not all) of the problems will be graded.

Midterms and exams:

- There will be two midterms and a final exam.
- Both midterms will be 50-minute exams at the usual class time. The dates will be confirmed and syllabi for the midterms will be announced at least one week in advance.
- The final exam will be scheduled for 1:30-4:30 p.m. on Thursday, May 13.
- The midterms and final exam will be zoom-proctored.

Grades: Your grade for the course will be determined by a weighted average of your scores for homework, quizzes, 2 midterms and a final. The weights of each will be:

Homework	10%
Quizzes	20%
Midterms	40%
Final	30%

Letter grades for the course will be `curved', with the class average corresponding to the boundary between a C and a B.