MATH 24: LINEAR ALGEBRA
SPRING 2017

JOHN VOIGHT

Course Info

• Lectures: Monday, Wednesday, Friday, block 10 (10:10–11:15 a.m.)
• x-period: Thursday, block 10X (12:15–1:05 p.m.)
• Dates: 27 March 2017 – 30 May 2017
• Room: 028 Haldeman Center
• Instructor: John Voight
• Office: 341 Kemeny Hall
• E-mail: jvoight@gmail.com
• Instructor’s Office Hours: TBA, or by appointment
• Course Web Page: http://www.math.dartmouth.edu/~m24s17/
• Prerequisites: Math 8, or equivalent. If you are unsure about your preparation, please talk to the instructor!
• Recommended Text: Kevin Houston, How to Think Like a Mathematician: A Companion to Undergraduate Mathematics, 2009.
• Grading: Grade will be based on reading and class participation, daily homework, weekly homework, short exams, and a takehome final exam (see below).

Course Catalogue Description

This course is an introduction to the fundamental concepts of linear algebra in abstract vector spaces. The topics and goals of this course are similar to those of MATH 22, but with an additional emphasis on mathematical abstraction and theory. (MATH 24 can be substituted for MATH 22 as a prerequisite for any course or program.)

Learning Outcomes

By the end of this course, you should be able to:

(1) Understand of the basic structures of linear algebra: define terms, explain their significance, and apply them in context;
(2) Solve mathematical problems: utilize abstraction and think creatively; and
(3) Write clear mathematical proofs: recognize and construct mathematically rigorous arguments.
Academic Honor Principle

Cooperation on homework is permitted (and encouraged), but if you work together, do not take any paper away with you—in other words, you can share your thoughts (say on a blackboard), but you have to walk away with only your understanding. In particular, write the solution up on your own. Please write on your assignment the names of any other collaborators you worked with.

Plagiarism, collusion, or other violations of the Academic Honor Principle, after consultation, will be referred to the The Committee on Standards. If you have any questions as to whether some action would be acceptable under the Academic Honor Principle, please speak to me beforehand.

Expectations

*Mathematics requires active participation.*

Before each class period, please read the assigned section and arrive ready to share what you have learned and what remains confusing. Class meetings will involve lecture and other activity in a variety of formats, and you will get the most out of each class day if you arrive ready to ask questions.

In all settings, collaborate thoughtfully and ask questions respectfully: everyone should be able to participate.

Grading

Your achievement in the course will be assessed through:

1. Reading and class participation (10%)
2. Daily homework (5%)
3. Weekly homework (30%)
4. Short exams (30%)
5. Take-home final exam (25%)

The median grade in Math 24 is historically B+/A-: we set high expectations in this course!

Exams

There will be three short exams and one takehome final exam in the course. The short exams will be taken during x-hour on the following dates:

- Short exam #1: Thursday, April 13, 2017
- Short exam #2: Thursday, May 4, 2017
- Short exam #3: Thursday, May 18, 2017

Please put these into your calendar right away and let me know within the first week if you have a conflict.

Tutorial

The TA for this course is Juan Auli. The TA will run tutorials on Sundays, Tuesdays, and Thursdays 7-9pm in Kemeny 004, starting on Tuesday, March 28. Feel free to drop in
as needed to the tutorials and get answers to your questions, help with your homework, and engage with the TAs and other students with the course material.

Homework

The homework assignments will be posted on the course webpage. Late homework is not accepted (absent exceptional circumstances). However, since everyone has a bad week, your lowest written homework grade will be dropped.

The daily homework will be assigned each day for the next class period and we will discuss it at the top of class. Please bring a red pen and mark any corrections or comments on the assignment as we discuss. You will be asked to turn in all of these daily homeworks at the end of the term with a self-assessment.

Standard weekly homework assignments will be typically due on Wednesdays. Please refer to the course webpage for links and further information.

Student Accessibility Needs

Students with disabilities who may need disability-related academic adjustments and services for this course are encouraged to see me privately as early in the term as possible. Students requiring disability-related academic adjustments and services must consult the Student Accessibility Services office (205 Collis Student Center, 646-9900, Student.Accessibility.Services@Dartmouth.edu).

Once SAS has authorized services, students must show the originally signed SAS Services and Consent Form and/or a letter on SAS letterhead to me. As a first step, if you have questions about whether you qualify to receive academic adjustments and services, you should contact the SAS office. All inquiries and discussions will remain confidential.

Religious Observances

Some students may wish to take part in religious observances that occur during this academic term. If you have a religious observance that conflicts with your participation in the course, please meet with me before the end of the second week of the term to discuss appropriate accommodations.

Syllabus

A full schedule is available on the course webpage.