

Math 322 Linear Algebra – Spring 2018

Instructor: Dr. Robert Denomme
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Office: 937 Patterson Office Tower
Course website: Canvas (uk.instructure.com)
Course schedule: MWF 9-9:50am, CB 335

Office Hours:
-Tues 11am–12:30pm drop-in help,
Mathskeller Klein Room
-MWF 2pm–4pm by appointment,
in POT 937

Textbook: Lay, Lay, McDonald, “Linear Algebra and it’s applications”, **5th edition**

Material: Chapters 1–6. Chapter 4 will likely be covered last, some material may be omitted.

One aspect of this course covers computational aspects of Linear Algebra, usually referred to as “Matrix Algebra”; Euclidian spaces, solving linear equations, matrix factorizations, Gram Schmidt. These would be required topics for going on to learn about a topic like Linear Programming.

The other aspect of this course covers more theoretical topics, often in an ‘abstract vector space’; determinants, eigenvalues, eigenvectors, inner product spaces, diagonalization. These would be required topics for going on to learn about a topic like Quantum Mechanics

Prerequisites: Math 114 (Calculus 2)

Exams: There will be two in-class exams(midterms) tentatively scheduled for

- Exam 1 - Friday, Feb. 9 (Chapters 1,2)
- Exam 2 - Wednesday, March 7 (Chapters 3, 5)

There will be a two hour cumulative final exam

- Final Exam - Wednesday, May 2nd, 8am–10am (same classroom)

Quizzes: There will be three 30-minute, in-class quizzes tentatively scheduled for

- Quiz 1 - Friday, Jan. 26
- Quiz 2 - Friday, Feb. 23
- Quiz 3 - TBD (April 6 – April 13)

Your lowest quiz grade will be dropped. This part of the ‘what-if’ scoring in the canvas grades tab will not be turned on until after the second quiz.

Devices ‘Scientific calculators’ will be allowed on quizzes and Exams, but **no graphing calculators will be allowed in quizzes/exams**. These graphing calculators have the ability to perform a lot of the calculations we need you to understand how to do for yourself. Absolutely no phones or headphones are allowed in testing environments.

Worksheets: Most class periods there will be worksheets for you to complete with your assigned group. Your group number is available on the course website under the Files tab, where the worksheets themselves will also appear. These worksheets are not graded, but may be collected periodically for instructors review. While these worksheets are not graded, problems from the worksheets are likely candidates for exam/quiz problems.

Homework: There will be regularly assigned Web Homework (on the free WebWork system), as well as Written Homework (problems from the book and problems written by the instructor).

The Web Homework will have unlimited tries (when appropriate) and you will know if you get a correct/incorrect answer immediately. These problems will cover more computational aspects of the course.

The Written Homework will not be collected or graded. Instead, each group will be assigned one specific homework set to write full, complete solutions for. Your group must have at least one person meet with the instructor in-person at least 3 days in advance of the due date to review these solutions (preferably during office hours), and make any corrections requested before submitting the final draft within the due date. The final draft of these solutions, along with the group member's names will be posted on the course website for all to review. These problems will cover the more theoretical aspects of the course.

The Written Homework will be graded on both correctness of answers, and quality of explanation for answers. Every group member will receive the same grade on this assignment, which counts for 5% of your total grade. The entire solution set will be graded out of 10 points.

Grading: This course will use the standard college grading scale. Grades will be rounded to the *nearest* whole percentage.

- A 90%–100%
- B 80%–90%
- C 70%–80%
- D 60%–70%
- E 0%–60%

Your final grade is based on the following breakdown:

- Final Exam** 35%
- Exams** 30%
- Quizzes** 20%¹
- Written Homework** 5%
- Web Homework** 10%

¹Your lowest quiz grade is dropped, but not your lowest exam score. Each exam is therefore 15% of your final grade, and each quiz that counts towards your final grade is 10%.

Absences: University Senate Rule 5.2.4.2 defines the following as acceptable reasons for excused absences: serious illness, illness or death of family member, University-related trips, major religious holidays other circumstances your instructor finds to be “reasonable cause for nonattendance”. Be prepared to supply documentation for any absence you want to be counted as excused. You must show me this documentation within one week after the absence. Students anticipating an absence for a major religious holiday are responsible for notifying the instructor in writing of anticipated absences due to their observance of such holidays no later than the last day for adding a class. It is almost always possible to notify your instructor of an excused absence before class. Students who have excused absences due to University-related trips or major religious holidays must inform the instructor prior to the absence and must complete all work prior to the absence. Students who are ill must inform the instructor of their absence(s) as soon as they return to class and they must provide documentation to demonstrate that the absence(s) was excused. Students who have excused absences due to illness or the death of a family member will be allowed to make up any missed work in a timely manner. These arrangements must be made with the instructor on a case-by-case basis.

Course specific policy - If you are absent for a day of lecture, please refer to the course calendar on canvas for the topic covered that day. Read that section of the book, read the lecture notes posted in the Files tab of canvas, and complete the worksheet from that day, which will be located in the Files tab of canvas. If you are going to be absent for a quiz/exam day, that quiz/exam **must be made up within one week of the exam date**. This is in order to allow sufficient time for other students to get their quiz exam back, and study for the next exam/quiz. The instructor will accommodate extreme circumstances on a case-by-case basis.

Integrity: Don't cheat. It is easy to catch cheaters. I'm good at it. You will receive an automatic 0 on an assignment you are caught cheating on (including exams/quizzes) and you will be reported to the university.

Cheating devalues your degree, which you (or someone on your behalf) are spending a lot of money on. A perception in Kentucky that UK courses are easy to cheat your way through will damage what your degree means to future employers. I take that seriously.

Accommodations: If you are registered with the Disability Resource Center, please provide your instructor with documentation (your letter from the DRC) in order to schedule alternative exam accommodations, appropriate classroom equipment, etc.

Suggestions: Please feel free to reach out to the instructor at any time with suggestions, constructive criticism, or concerns of ANY sort (i.e. I'm getting lost in this class). I've heard that Dr. Denomme is a reasonable person!