Linear Algebra and Matrix Theory, Mathematics 3315, Section 001
Fall 2023

Instructor: Katie Anders
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Course Schedule: Class meets MWF from 1:25–2:20 P.M. in RBN 2012.

Course Website: You MUST activate your Canvas account. To do so, go to `https://uttyler.edu/canvas`. This is also the address to login. If you are registered in the course, you already have access to the course. All important documents will be posted on Canvas.

Office hours: Tuesday & Thursday 9:00-10:30 A.M. and by appointment arranged by email

Required Text: *Linear Algebra and Its Applications*, 5th edition, by Lay, Lay, & McDonald, ISBN # 978-0-321-98238-4

Course Description: A study of finite dimensional vector spaces and linear transformations with emphasis given to the basic theory of matrices

Course Prerequisites: Mathematics 3425, Foundations of Mathematics, or concurrent enrollment

Course Outline: Chapters 1-6 of the text, in part or in full

Student Learning Outcomes: Upon completion of this course, students should be able to do the following.

- Understand and use abstract mathematical concepts (Critical Thinking)
- Solve systems of linear equations
- Perform matrix arithmetic operations
- Represent linear transformations by matrices
- Determine dimension and bases for finite dimensional vector spaces
- Find eigenvalues and eigenspaces
- Diagonalize matrices

Grading: Scores will be posted on Canvas. After the end of the semester, final course grades will be available on `my.uttyler.edu`. A final course grade of 90% is guaranteed to be at least an A, a final course grade of 80% is guaranteed to be at least a B, a final course grade of 70% is guaranteed to be at least a C, and a final course grade of 60% is guaranteed to be at least a D. All grades below D will be F. However, there is an exception in that you must have a passing homework average to pass the course. There is also the exception that your course grade cannot exceed your final exam score by more than one letter grade. This means that if you earn a C on the final exam, you cannot receive higher than a B in the class. If you earn an F on the final exam, you cannot receive higher than a D in the class. The breakdown of your final course grade into categories is given below.

Homework: 15%

Midterm exams: 20% each
Final exam: 25%

If you have any questions about the grading of a particular homework or exam, you must contact me no more than one week after the day I return the graded assignment in class, whether you are present during that class or not.

Attendance: It is your responsibility to attend class. Attendance is mandatory. This means, among other things, coming to class on time and prepared. Before class begins, you should turn off cell phones and any other electronic devices. Students are responsible for all announcements made during lecture.

Homework: Homework will be assigned each class period. On Friday, at the beginning of class, the homework assigned from the 3 previous class periods will be collected. The two lowest homework scores will be dropped at the end of the semester.

Exams: There will be 3 midterm exams. A list of the test dates is given below. This list is preliminary and subject to change; at least one week advance notice of any change in test dates will be given.

Exam 1: Wednesday, September 20
Exam 2: Monday, October 16
Exam 3: Friday, November 10

Final Exam:. The final exam will be on Monday, December 4 from 12:30-2:30 P.M. in the usual classroom, RBN 2012, and will be cumulative.

Cell Phones: Cell phones are not permitted in class. You must silence them and put them away before class begins.

Calculators: The use of calculators and other electronic devices, including cell phones, during exams is strictly prohibited, so study accordingly.

Make-ups: Make-ups for **documented** absences that are **required** as part of a UT Tyler obligation (e.g. athletes participating in an event, students participating in a debate contest, etc.) or for religious observation will be granted. For all make-ups of this type, prior notification of at least one week and documentation are required. Other make-ups are granted only in extreme cases and at the sole discretion of the instructor. Prior notification is still required. Under no circumstances will make-ups be granted without prior notification. Leaving early for a break is NOT grounds for a make-up, so please make your travel plans accordingly. In almost all cases, missed work will be assigned a 0. Keep in mind that the 2 lowest homework scores will be dropped at the end of the semester.

Academic Integrity: Your work must be your own. Violations will be processed according to the established guidelines of the department, college, and university.

Violations of academic integrity include, but are not limited to, cheating, fabrication, or plagiarizing. A range of academic sanctions may be taken against a student who engages in academic dishonesty. Below are ideas related to academic integrity.

Resources you are encouraged to utilize in this course include the textbook and unassigned problems, notes from class, assigned homework problems, your fellow Math 3315 students, and your instructor. E-mail is the best way to contact me. I reply to email from 9:00 A.M.-4:00 P.M. Monday-Friday.

A note about a resource NOT allowed in this course: while the internet may be a valuable resource, using it to unethically acquire answers for your work will be considered a violation of academic integrity and processed accordingly. Similarly, copying answers from other students' assignments, past or present, violates the idea that your work must be your own.

University Policies: Friday, September 1 is this semester's Census Date, the deadline for all registrations, schedule changes, and section changes. Monday, October 30 is the last day to withdraw from one or more courses. For university policies concerning Students' Rights and Responsibilities, Grade Replacement/Forgiveness, State-Mandated Course Drop Policy, Disability Services, Student Absence due to Religious Observance, Student Absence for University-Sponsored Events and Activities, Social Security and FERPA Statement, see the University Policies and Information file on this course's Canvas page.