

**Math 3203 – Matrix Methods
Summer 2025**

Professor: Dr. David Milan

Office: RBN 4001

Office Hours: 10am-11am, or by appointment

Email: dmilan@uttyler.edu

Office Phone: 903-566-7210 (email is best)

Web: class page on canvas

Class Meeting Time: M-F 11:00am – 12:10pm

Required Text: *Linear Algebra and its Applications* (5th ed.) by Lay, Lay, and McDonald (The 6th edition is also fine.)

Prerequisites: Math 2414 (or concurrent enrollment)

Course Description: Matrices and matrix algebra, determinants, systems of linear equations, Gaussian elimination, eigenvalues and eigenvectors, linear transformation, applications in science and engineering.

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

- Perform basic matrix operations including row reduction, transpose, finding the inverse and finding the determinant.
- Solve systems of linear equations using substitution, Gaussian elimination, Cramer's rule and inverse matrices.
- Find eigenvalues and eigenvectors as well as understanding their properties and importance to matrix theory and applications.
- Understand the basic properties of vector spaces including linear independence, dimension, and rank.

Course Evaluation: Your grade will be based on:

Quizzes	20%
Four Exams	80%

The grading scale will be no harsher than: 90% = A, 80% = B, 70% = C, 60% = D.

Important Dates:

July 10: Census date

July 29: Last day to withdraw from course

Final Exam: Friday, August 8, in the usual classroom.

Tentative Daily Schedule

	Monday	Tuesday	Wednesday	Thursday	Friday
1	1.1, 1.2	1.2, Quiz 1	1.3	1.4, Quiz 2	1.5
2	1.7	Test 1	1.8	1.9, Quiz 3	2.1
3	2.2	2.3, Quiz 4	2.8	Test 2	2.9
4	3.1	3.2, Quiz 5	3.3	5.1, Quiz 6	5.2
5	5.3	Test 3	5.4	5.5, Review	Final

Homework: Homework problems will be assigned for each class meeting. The best way to succeed in this course is to work all of the recommended problems. Most students will encounter some difficulties with these problems. When that happens, visit my office hours or ask at the beginning of the next class. Homework is not collected for a grade, but the quizzes will be similar to the assigned problems.

Quizzes: We will have a quiz each Tuesday and Thursday unless there is an exam. The problems will be similar to the assigned homework. The lowest quiz grade will be dropped.

Calculator Policy: Graphing calculators are not allowed on exams. You may use simple scientific calculators for help with arithmetic.

University Policies: See <https://www.uttyler.edu/offices/academic-affairs/files/syllabus-information.pdf> for these important University policies: UT Tyler Honor code, student rights and responsibilities, campus carry, UT Tyler a tobacco-free university, grade replacement and forgiveness, state-mandated course drop policy, student accessibility and resources, student absence for university-sponsored events, social security and FERPA, emergency exits and evacuation, and student standards of academic conduct.

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For this course, all graded work must be done in person without the assistance of AI. You are free to use AI as a study aid, for instance to generate practice problems and solutions.