



TEXAS WOMAN'S UNIVERSITY™

Spring 2025 Math 3073 Matrix Methods Syllabus

In the event of a significant disruption of course activities because of an extraordinary environmental situation (e.g., COVID-19), this syllabus is subject to change. Any and all changes will be communicated with students in as timely a manner as the situation allows.

Instructor Information

Instructor Name: Alexis Hardesty
Email Address: ahardesty1@twu.edu
Office Location: MCL 416
Student Hours: Monday noon-1pm Wednesday noon-1pm and by appointment
Monday 4-6pm

Student Hours are times that I have set aside on a weekly basis to help guide you through anything you find difficult, to review homework, quizzes or exams, and to discuss anything that is getting in your way of being successful in this course. I am available for you in my office during these hours, however if these hours do not work for you, please let me know and we can find another time to meet. I hope to see you soon!

Course Description and Overview

Matrix operations, determinants, inverse of a matrix, solution of linear systems, eigenvalues and eigenvectors, matrix calculus.

Meets:

- Major Requirements
- Departmental Requirements
- Educator Standards for 4-8 Mathematics, 7-12 Mathematics

Measurable Student Learning Outcomes

1. Accurately perform matrix operations.
2. Solve systems of linear equations using a variety of appropriate matrix methods.
3. Clearly apply matrix methods to solve word problems.
4. Utilize appropriate technology to solve matrix equations.

Each of the above student learning outcomes must be performed at an appropriate level as stated in each course assignment requirements, grading scale or rubric.

Course Materials and Supplies

Textbook:

Optional: Matrix Methods by Richard Bronson and Gabriel Costa, any edition

Supplies:

Each student should have a folder or binder to keep their graded work. A graphing calculator will be used for this course. If you need one for class, check one out from MCL 307.

Tutoring Lab:

The Math and Technology Success Center is open for students to receive mathematics help from 7:30am to 8pm on Monday-Thursday and 8am to 5pm on Friday in MCL 307.

Preservice Teachers:

All students pursuing a degree program leading to initial teacher or professional certification are required to purchase a Tk20 account for a one-time cost of \$139 plus tax (subject to change). More information about Tk20 may be accessed via the Tk20 by Watermark (How to Login to Tk20) webpage.

Activities, Assignments, and Grading Policy

Students should expect an online and a written homework assignment each week of the semester (with some weeks skipped due to exams). Each written homework assignment will address four main areas of knowledge:

1. Definitions
2. Important results
3. Application of definitions and important results
4. Connections (to society, to K-12 education, to other courses, etc.).

The final grade will be calculated as follows:

Online Homework – 20%	In-Class Exam 1 – 15%
Written Homework – 30%	In-Class Exam 2 – 15%
	Final Exam – 20%

Calendar of Classes, Sessions, Activities, Readings, Examinations & Assignments

Week 1-6:	Chapter 1	Matrices
	Chapter 2	Linear Equations
	Chapter 3	The Inverse
	Chapter 4	Optimization

Week 7: Exam 1 (February 24)

Week 8-12: Chapter 4 Optimization
Chapter 5 Determinants
Chapter 6 Eigenvalues & Eigenvectors
Chapter 7 Matrix Calculus

Week 13: Exam 2 (April 21)

Week 14: Final Exam Review (April 28)

Final Exam: Monday May 5 from 6-9pm

Educator Preparation Program Policies

Professional Dispositions Policy

All students pursuing degree programs leading to initial teacher or professional certification are assessed on the following professional dispositions by faculty and staff throughout the educator preparation program. The full policy may be accessed via the [Professional Dispositions Policy webpage](#).

1. Adherence to established classroom, program, department/division, college, university, public-school, and neighborhood policies.
2. Models established classroom, program, department/division, college, university, public-school, and neighborhood policies.
3. Demonstrates competence and professionalism in all oral, written, and electronic interactions.
4. Models competence and professionalism in all oral, written, and electronic interactions.
5. The ability to solicit, accept, and learn from feedback.
6. The ability to collaborate productively, respectfully, and effectively with stakeholders from diverse backgrounds.
7. Responsibility for their own learning and that of their students (during a field assignment).
8. Professional appearance at all times.
9. Professional demeanor (e.g., Remain poised and confident; communicate calmly and respectfully). Professionalism in communication and presentation of yourself among stakeholders.
10. Professional relationships with students and all stakeholders in and out of the P-12 classroom.

TEXES Testing Policy

All students pursuing degree programs leading to initial teacher or professional certification are required to demonstrate certification test readiness before approval will be granted to sit for any state examination. Practice Exams and test resources are available through the TEXES Prep Center. More information on test preparation resources, practice tests, exam fees, and the full testing policy may be accessed via the [TEXES PREP Center webpage](#).

Exit Policy

Initial and professional certification candidates may be removed from the Texas Woman's University Educator Preparation Program (EPP) when candidates demonstrate behavior inconsistent with the knowledge, skills, and dispositions expected of teachers and leaders in Texas. Dismissal from the program may be based on grounds including but not limited to:

1. Failure to meet coursework requirements.