

MATH 3203.002 – Matrix Methods Syllabus

Instructor Contact Information:

Name: Regan Beckham
Phone: (903) 566-7192
email: rbeckham@uttyler.edu
office: RBN 4012

Office Hours: MW 7:00-8:00

Required Text: *Matrix Methods - An Introduction, 2nd Edition* by Richard Bronson

Prerequisites

Math 2414 or Concurrent Enrollment

Catalog Description of Course

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

In-Class Exams (60%)

There will be three in-class exams throughout the semester. Exams will be announced at least one week prior.

Final Exam (30%)

There will be a comprehensive final exam. The date for the final exam will be announced at a later date. **No early final will be given.**

Quizzes and Homework(10%)

There will be a collections of homework assignments and in-class quizzes throughout the semester. Quizzes and homework due dates will be announced in class. Homework turned in within one class period of the due date will receive at most half credit. Homework received after the following class period will receive a zero. No make-up quizzes will be given.

Make-up Policy

Make-ups for **documented** absences that are **required** as part of a UT Tyler obligation (e.g. athletes participating in an event, 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.

Course Outline

We will cover the first five chapters in detail. The remaining material will come from selected sections in the book as well as supplemental material.

Student Learning Outcomes

At the conclusion of the course, the student should be able to:

1. Perform basic matrix operations including row reduction, transpose, finding the inverse and finding the determinant.
2. Solve systems of linear equations using substitution, Gaussian elimination, Cramers rule and inverse matrices.
3. Find eigenvalues and eigenvectors as well as understanding their properties and importance to matrix theory and applications.
4. Understand the basic properties of Euclidean space including linear independence, dimension, rank, orthogonality, norm and projection.

University Policies

Disability Statement

If you have a disability, including a learning disability, for which you request disability support services and/or accommodation(s), please contact Ida MacDonald in the Disability Support Services office so that the appropriate arrangements may be made. In accordance with federal law, a student requesting disability support services and/or accommodation(s) must provide appropriate documentation of his/her disability to the Disability Support Services counselor. For more information, call or visit the Student Services Center located in the University Center, Room 282. The telephone number is 566-7079 (TDD 565-5579). Additional information may also be obtained at the following UT Tyler Web address: <http://www.uttyler.edu/disabilityservices>.

Social Security Statement

It is the policy of The University of Texas at Tyler to protect the confidential nature of social security numbers. The University has changed its computer programming so that all students have an identification number.

Note Regarding Student Absence due to Religious Observance

Students who anticipate being absent from class due to a religious observance are requested to inform the instructor by the second class meeting of such absences.

Grade Replacement

If you are repeating this course for a grade replacement, you must file an intent to receive grade forgiveness with the registrar by the 12th day of class. Failure to file an intent to use grade forgiveness will result in both the original and repeated grade being used to calculate your overall grade point average. A student will receive grade forgiveness (grade replacement) for only three (undergraduate student) or two (graduate student) course repeats during his/her career at UT Tyler. (2006-08 Catalog, p. 35)