



Linear Algebra - Math 2318.001

Course Syllabus: Fall 2017

“Northeast Texas Community College exists to provide responsible, exemplary learning opportunities.”

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Office Hours	Monday	Tuesday	Wednesday	Thursday	Friday	Online
	9:30 – 11:00 1:30 – 5:00	1:30 – 5:00	9:30 – 11:00 1:30 – 5:00	1:30 – 5:00	By appointment	As needed

The information contained in this syllabus is subject to change without notice. Students are expected to be aware of any additional course policies presented by the instructor during the course.

Catalog Course Description (include prerequisites): Three credit hours. Introduces and provides models for application of the concepts of vector algebra. Topics include finite dimensional vector spaces and their geometric significance; representing and solving systems of linear equations using multiple methods, including Gaussian elimination and matrix inversion; matrices; determinants; linear transformations; quadratic forms; eigenvalues and eigenvector; and applications in science and engineering. Prerequisite: MATH 2414

Required Textbook(s):

Lay. *Linear Algebra*, 5th Edition.

Publisher: Pearson, 2016

ISBN Number: ISBN-13: 978-0-321-98238-4

Recommended Reading(s):

None

Student Learning Outcomes:

Upon successful completion of this course, students will:

- 2318.1 Solve systems of linear equations using multiple methods, including Gaussian elimination and matrix inversion.
- 2318.2 Calculate matrix operations, including inverses and determinants.
- 2318.3 Demonstrate understanding of the concepts of vector space and subspace.
- 2318.4 Demonstrate understanding of linear independence, span, and basis.

2318.5 Determine eigenvalues and eigenvectors and solve problems involving eigenvalues.

2318.6 Apply principles of matrix algebra to linear transformations.

2318.7 Demonstrate application of inner products and associated norms.

SCANS Skills:

N/A

Topics:

I. Linear Equations in Linear Algebra (1.1 – 1.5; 1.7 – 1.9)

II. Matrix Algebra (2.1 – 2.4; 2.8 – 2.9)

III. Determinants (3.1 – 3.3)

IV. Vector Spaces (4.1 – 4.7)

V. Eigenvalues and Eigenvectors (5.1 – 5.4)

VI. Orthogonality and Least Squares (6.1 – 6.4)

Evaluation/Grading Policy:

Exam 1 20%

Exam 2 20%

Exam 3 20%

Assignments and Quizzes* 20%

Comprehensive Final 20%

Minimum requirements for Final Course Grade

"A" 90%

"B" 80%

"C" 70%

"D" 60%

"F" Below 60%*

*The daily grade is an average grade of quizzes and assignments.

In-class quizzes must be taken according to class schedule.

The lowest in-class quiz grade will be dropped. The highest in-class quiz grade will be doubled.

There are no make-up assignments.

Other Course Requirements

A graphing calculator is required for this course.

Student Responsibilities/Expectations:

Regular and punctual attendance at all scheduled classes is expected. Attendance is necessary for successful completion of course work. There is no make-up on in-class quizzes and WebAssign assignments.

NTCC Academic Honesty Statement:

"Students are expected to complete course work in an honest manner, using their intellects and resources designated as allowable by the course instructor. Students are responsible for addressing questions about allowable resources with the course instructor. NTCC upholds the highest standards of academic integrity. This course will follow the NTCC Academic Honesty policy stated in the Student Handbook."

Academic Ethics

The college expects all students to engage in academic pursuits in a manner that is beyond reproach. Students are expected to maintain complete honesty and integrity in their academic pursuit. Academic dishonesty such as cheating, plagiarism, and collusion is unacceptable and may result in disciplinary action. Refer to the student handbook for more information on this subject.

ADA Statement:

It is the policy of NTCC to provide reasonable accommodations for qualified individuals who are students with disabilities. This College will adhere to all applicable federal, state, and local laws, regulations, and guidelines with respect to providing reasonable accommodations as required to afford equal educational opportunity. It is the student's responsibility to request accommodations. An appointment can be made with Shannin Garrett, Academic Advisor/Coordinator of Special Populations located in the College Connection. She can be reached at 903-434-8218. For more information and to obtain a copy of the Request for Accommodations, please refer to the [NTCC website - Special Populations](#).

Family Educational Rights And Privacy Act (FERPA):

The Family Educational Rights and Privacy Act (FERPA) is a federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. FERPA gives parents certain rights with respect to their children's educational records. These rights transfer to the student when he or she attends a school beyond the high school level. Students to whom the rights have transferred are considered "eligible students." In essence, a parent has no legal right to obtain information concerning the child's college records without the written consent of the student. In compliance with FERPA, information classified as "directory information" may be released to the general public without the written consent of the student unless the student makes a request in writing. Directory information is defined as: the student's name, permanent address and/or local address, telephone listing, dates of attendance, most recent previous education institution attended, other information including major, field of study, degrees, awards received, and participation in officially recognized activities/sports.

6 Drop Rule: "Students who enrolled in Texas public institutions of higher education as first-time college students during the Fall 2007 term or later are subject to section 51.907 of the Texas Education Code, which states that an institution of higher education may not permit a student to drop (withdraw with a grade of "W") from more than six courses. This six-course limit includes courses that a transfer student has previously dropped at other Texas public institutions of higher education if they fall under the law. Students should be sure they fully understand this drop limit before they drop a course. Please visit the admissions office or counseling/advising center for additional information and assistance."

Other Course Policies:

There will be no cell phone usage in the classroom. Students will be warned if caught using a phone during class. A student will be removed from class if the disruption continues.

The college's official means of communication is via your campus email address. I will use your campus email address and Blackboard to communicate with you outside of class. Make sure you keep your campus email cleaned out and below the limit so you can receive important messages.

Campus Safety: Northeast Texas Community College (NTCC) is committed to maintaining the safety of the students, faculty, staff, and guests while visiting any of our campuses. See NTCC's website for details and to receive emergency notifications automatically by phone. In the event of an emergency contact NTCC Police at 903-434-8127.