Syllabus - MATH 2360 – Linear Algebra
Section 010
Spring 2018

Instructor Information
Name: Dr. Dermot McCarthy
Office: Math Building Room 217
E-mail: dermot.mccarthy@ttu.edu
Phone: (806) 834-0191
Office Hours: MW 11:00 am - 12:30 pm, and by appointment.
Webpage: www.math.ttu.edu/~mccarthy/math2360s18.html

Note: Outside of office hours the best way to contact me is via e-mail. Please include your full name in any e-mail you send to me.

Course Information
Class Times: MWF 10:00 am – 10:50 am in Mathematics 114
Prerequisites: MATH 1352 and MATH 1452
Textbook: *Elementary Linear Algebra (8th edition)* by R. Larson, published by Cengage

Course Description and Purpose
This course introduces students to linear algebra, in particular, to solving systems of linear equations using matrices and related concepts, e.g., vector spaces, bases, eigenvectors and eigenspaces. The presentation will be very elementary with a great deal of attention directed to solving specific problems. This is not intended to be a course in abstract mathematics. However, mathematical rigor, with proofs, is expected.

Course Learning Outcomes
MATH 2360 satisfies the university core curriculum requirement in Mathematics: "Students graduating from Texas Tech University should be able to demonstrate the ability to apply quantitative and logical skills to solve problems." It meets the following TTU general education student learning outcomes for mathematics that students will:
* Apply arithmetic, algebraic, geometric, statistical and logical reasoning to solve problems;
* Represent and evaluate basic mathematical and/or logical information numerically, graphically and symbolically; and
* Interpret mathematical and/or logical models such as formulas, graphs, tables and schematics, and draw inference from them.

Upon completion of this course students should have developed skill in manipulating with matrices and understanding their relationship to linear systems, as well as understanding the concept of bases and vector spaces, eigenvectors and eigenspaces. In particular, students should be able to:
* perform basic vector algebra, and compute their bases;
* express a linear transformation as a matrix;
* perform basic matrix manipulations, and compute the determinant of a matrix;
* compute eigenvalues and eigenvectors; and
* use the Gram-Schmidt process.

This roughly corresponds to chapters 1-7 from the textbook.

Tentative Course Outline

Introduction	January 19	0.25 hours
Chapter 1	January 19 - January 26	3.75 hours
Chapter 2	January 29 - February 7	5 hours
Chapter 3	February 9 - February 16	4 hours
Exam I	February 19	1 hour
Chapter 4	February 21 - March 9	8 hours
Chapter 7	March 19 - March 30	6 hours
Exam II	April 4	1 hour
Chapter 6	April 6 - April 20	7 hours
Chapter 5	April 23 - May 2	5 hours
Review	May 4 - May 7	2 hours
Total		43 hours

Learning Assessment

Learning outcomes will be assessed through homework exercises and examinations.

Homework: Homework will be assigned throughout the semester through the online system WebWorK. There will be approximately 10 such assignments over the course of the semester. Late homework will not be accepted.

In-class exams: There will be two in-class exams given during the semester. A tentative schedule for these exams is
Exam 1: Monday, February 19
Exam 2: Wednesday, April 4

Final exam: The final exam will take place on Monday, May 14, 1:30 pm – 4:00 pm in our regular classroom. The final exam is comprehensive, i.e., it will examine material from the entire course.

Final exam dates are set by the university - please confirm the date of our exam on the university website www.depts.ttu.edu/officialpublications/ClassSchedule/FinalExams.php

Grading

A student's overall percentile grade for the course will be calculated based on his/her percentile grade in each of the assessment categories described above, weighted as follows:
Homework   20%
In-class exams   40%   (each worth 20%)
Final Exam   40%

Letter grades will then be assigned in accordance with the following correspondence:
Letter grade A = a percentile grade of 90% of higher
Letter grade B = a percentile grade of 80% or higher, that is lower than 90%
Letter grade C = a percentile grade of 70% or higher, that is lower than 80%
Letter grade D = a percentile grade of 60% or higher, that is lower than 70%
Letter grade F = a percentile grade lower than 60%

Civility In The Classroom

Texas Tech University endeavors to foster a classroom climate of mutual respect among students and between students and teacher. Mutual respect means that we should be tolerant of different ideas and varying opinions about topics of discussion in class, that we address each other respectfully and without interrupting while others are speaking, and that we do not engage in disruptive behavior in class. Signs of disrespect include, but are not

restricted to: ringing cell phones (students must turn them off or leave them home), reading a newspaper or other material that is not part of a class assignment while in class, talking with classmates during class, eating and drinking in class, and similar disruptive behaviors. Students who engage in disruptive behavior will be warned. Repeated disruptive behavior may result in the student being asked to leave the classroom.

Academic Honesty

It is the aim of the faculty of Texas Tech University to foster a spirit of complete honesty and high standard of integrity. The attempt of students to present as their own any work not honestly performed is regarded by the faculty and administration as a most serious offense and renders the offenders liable to serious consequences, possibly suspension.

"Scholastic dishonesty" includes, but it not limited to, cheating, plagiarism, collusion, falsifying academic records, misrepresenting facts, and any act designed to give unfair academic advantage to the student (such as, but not limited to, submission of essentially the same written assignment for two courses without the prior permission of the instructor) or the attempt to commit such an act.

Please see Operating Policy and Procedure 34.12 for a complete description of Texas Tech's policy on academic dishonesty.

Accommodation Of Students With Disabilities

Any student who, because of a disability, may require special arrangements in order to meet the course requirements should contact the instructor as soon as possible to make any necessary arrangements. Students should present appropriate verification from Student Disability Services during the instructor's office hours. Please note: instructors are not allowed to provide classroom accommodations to a student until appropriate verification from Student Disability Services has been provided. For additional information, please contact Student Disability Services in West Hall or call 806-742-2405.

Please see Operating Policy and Procedure 34.22 for a complete description of Texas Tech's policy on accommodations or students with disabilities.

Student Absences

Observation Of Religious Holy Days:
1. A "Religious holy day" means a holy day observed by a religion whose places of worship are exempt from property taxation under Texas Tax Code §11.20.
2. A student who intends to observe a religious holy day should make that intention known in writing to the instructor prior to the absence. A student who is absent from classes for the observance of a religious holy day shall be allowed to take an examination or complete an assignment scheduled for that day within a reasonable time after the absence.
3. A student who is excused under section 2 may not be penalized for the absence; however, the instructor may respond appropriately if the student fails to complete the assignment satisfactorily.

Officially Approved Trips and Excused Absences: A student who misses an examination or is unable to complete an assignment due to an officially approved trip or an excused absence (e.g. illness) will be allowed to make-up the missed examination or assignment within a reasonable timeframe thereafter. Students should notify the instructor of any such absences as soon as is possible. The student should be able to provide official evidence to support the reason for their absence (e.g. a doctor's note in the case of illness).

Unexcused Absences: Make-up of examinations or assignments will not be allowed in the case of unexcused absences.