MTH 341 LINEAR ALGEBRA I - Fall 2015

Class Meetings MWF 11:00-11:50 in MLM 234

Professor Dr. Elaine Cozzi
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• Office Hours: Tues 11:00 AM-1:00 PM, Fri 10:00 AM-11:00 AM

Text Linear Algebra, by Jim Hefferon
(free download at http://joshua.smcvt.edu/linearalgebra/)

Course Webpage http://people.oregonstate.edu/~cozzie/MTH341F15.html
The first-day handout, homework assignments, and other course materials will be posted on the course webpage.

Content of the course Linear systems, matrix algebra, vector spaces and subspaces, maps between spaces, determinants, and computational aspects of eigenvalues and eigenvectors. These topics are covered in Chapters 1-5 of the text.

Prerequisites MTH 254.

Course Assessment Your overall grade will be determined by the following:
• Homework: 22.5%
• Quizzes 12.5%
• Midterm Exam: 30%
• Final Exam: 35%

Homework Homework will be posted on the course webpage every Wednesday and will usually be due the following Wednesday at the beginning of class (although it may be occasionally due on a Monday). There will be a total of eight homework assignments. The first assignment will be due on October 7. You are encouraged to discuss homework problems with your classmates outside of class; however, you must write up and submit your own work. Late homework will not be accepted under any circumstance. Your lowest homework grade will be dropped.

Quizzes There will be four in-class quizzes. Each quiz will be closed book, closed notes, and will be 15 minutes long. The quizzes are tentatively scheduled for October 9, October 23, November 13, and November 27. There will be no make up quizzes. Your lowest quiz grade will be dropped.

Exams There will be one in-class midterm and a final exam. The midterm
is tentatively scheduled for Wednesday, November 4. The final is cumulative and will be held on Tuesday, December 8, 12:00 PM - 1:50 PM.

Learning Outcomes After completing MTH 341, the successful student will be able to

- determine if a linear system has a solution and solve the linear system using elementary row operations on the associated augmented matrix.
- classify the set of solutions to a linear system.
- perform the operations of addition, scalar multiplication, and multiplication on matrices and find the inverses and transposes of matrices.
- understand properties of determinants and calculate determinants of matrices using row operations, column operations, and expansion down any column or across any row.
- understand the definitions of a vector space and subspace, the span of a set of vectors, basis and dimension for a vector space or subspace, and specifically the column and null spaces of a matrix.
- determine linear dependence or independence for a set of vectors.
- apply linear transformations and construct the matrix of a linear transformation.
- find the characteristic polynomial and eigenvalues and eigenvectors of square matrices and be able to explain the concepts as they apply to square matrices of any size.

Students with Disabilities Accommodations are collaborative efforts between students, faculty and Disability Access Services (DAS). Students with accommodations approved through DAS are responsible for contacting the faculty member in charge of the course prior to or during the first week of the term to discuss accommodations. Students who believe they are eligible for accommodations but who have not yet obtained approval through DAS should contact DAS immediately at 737-4098.

Academic Honesty Students are expected to be familiar with Oregon State University’s Statement of Expectations for Student Conduct. Please review this statement at http://oregonstate.edu/admin/stucon/achon.htm