

MAT 7-221 Linear Algebra

March-April 2015

Course Outline

Instructor: Professor Tony deLaubenfels

Office: Law 222

Office Hours: 2:30 - 3:30 p.m. Monday through Friday

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E-mail address: tdelaubenfels (tdelaubenfels@cornellcollege.edu from off campus)

Text: *Linear Algebra and its applications, 4E* by David C. Lay, Addison Wesley. We will cover most of chapters 1 - 7.

Prerequisites:

The prerequisites for Linear Algebra are Calculus of a Single Variable—MAT 120 or MAT 121, and Calculus of Several Variables—MAT 122 or Discrete Math for Computer Science—CSC 151.

Class meetings: There will be Lecture/Discussion each morning from 9 a.m. until around 11 a.m. and afternoon class Monday through Friday from 1:15 p.m. until 2:30 p.m.

Exam schedule:

Exam 1	Chapters 1-2	Monday, March 23
Exam 2	Chapters 3-4	Monday, March 30
Exam 3	Ch. 5-7+ comprehensive	Wednesday, April 8

Evaluations: Your grade will be based on your performance on homework and exams according to the following schedule:

Exam 1	100 points
Exam 2	100 points
Final Exam	150 points
Homework, Quizzes, and Presentation	<u>100 points</u>
TOTAL possible	450 points

Course Description from the Cornell catalog:

Existence and uniqueness of solutions to linear systems. Linear transformations, linear independence, spanning vectors, vector spaces, basis and dimension, orthogonality, eigenvalues and eigenvectors. Students will be required to prepare written and oral presentations on a linear algebra application approved by the instructor.

Course Objectives:

Upon completion of MAT221 a successful student will be able to

- determine when solutions to linear systems exist and if they are unique
- express an understanding that matrices are closely related to linear transformations
- understand the concepts and be able to read and write proofs related to vector spaces and subspaces, linear independence, and basis vectors
- demonstrate a mastery of fundamental ideas and algorithms related to eigenvalues and eigenvectors
- use technology related to linear algebra concepts and calculations

This course supports the Educational Priorities and Outcomes of Cornell College with emphasis on knowledge, inquiry, reasoning, and communication.

Distractions. Other than our classroom computer, no electronic devices (laptop computers, cell phones, mp3 players, etc.) may be used in our classroom while class is in session. Exceptions will be made in special cases, for example if these are used in an accommodation for a disability.

Drop Policy. I follow the college's policy on 15th day drops. i.e. in order to be eligible for a third Friday drop, you must attend class and complete all course work.

Academic Integrity. Cornell College expects all members of the Cornell community to act with academic integrity. An important aspect of academic integrity is respecting the work of others. A student is expected to explicitly acknowledge ideas, claims, observations, or data of others, unless generally known. When a piece of work is submitted for credit, a student is asserting that the submission is her or his work unless there is a citation of a specific source. If there is no appropriate acknowledgment of sources, whether intended or not, this may constitute a violation of the College's requirement for honesty in academic work and may be treated as a case of academic dishonesty. The procedures regarding how the College deals with cases of academic dishonesty appear in *The Compass*, our student handbook, under the heading "Academic Policies – Honesty in Academic Work."

Accommodation. Students who need accommodations for learning disabilities must provide documentation from a professional qualified to diagnose learning disabilities. For more information see cornellcollege.edu/disabilities/documentation/index.shtml. Students requesting services may schedule a meeting with the disabilities services coordinator as early as possible to discuss their needs and develop an individualized accommodation plan. Ideally, this meeting would take place well before the start of classes. At the beginning of each course, the student must notify the instructor within the first three days of the term of any accommodations needed for the duration of the course.