

Linear Algebra (E12.2102) FALL 2009 Emily Mines

Text: Linear Algebra, 3rd edition, Fraleigh and Beauregard

Grading:

There will be:

- One graded take home set--15%
- Two In class exams: --25% each
- One final exam which will be collected -35%

Blackboard:

I will rely heavily on the use of the Blackboard system. The following links will be utilized:

- **Course Information.** This Document will reside there.
- **Course Documents.** The weekly class notes will be posted there.
- **Assignments.** The weekly Assignments will be posted there. Selected problems will have solutions posted.
- **External Links.** Helpful websites will be posted here.

Timeline and Overview of topics

This schedule is *subject to changes* so currently serves as a guideline. It may not precisely happen this way. (We shall see.) You should check Blackboard after each class for the HW and solutions, if any are needed.

Class #	Date	Topic	Text Sections
1	9-10	<ul style="list-style-type: none"> • Vectors in Euclidean spaces • Norm and Dot product • Algebra of Matrices 	1.1-1.3
2	9-17	<ul style="list-style-type: none"> • Algebra of Matrices • Linear Systems • Inverses of Matrices 	1.3-1.5
3	9-24	<ul style="list-style-type: none"> • Homogeneous systems • Subspaces • Bases 	1.6
NO class	10-1	Take home problem set due next week: Covers Class 1-3 and other material to be distributed	XXXXXXXX
4: TAKE HOME DUE	10-8	<ul style="list-style-type: none"> • Independence and Dimension • Rank of a Matrix 	2.1, 2.2
5	10-15	<ul style="list-style-type: none"> • Linear Transformations of Euclidean Spaces • Linear Transformations of the Plane 	2.3, 2.4
EXAM	10-22	Exam: Covers Class 1-4	XXXXXXXX
6	10-29	<ul style="list-style-type: none"> • Vector Spaces • Subspaces, Independence and Span revisited 	3.1, 3.2
7	11-5	<ul style="list-style-type: none"> • Inner Product Spaces • Areas, Volumes, Cross Products 	3.5, 4.1
8	11-12	<ul style="list-style-type: none"> • Determinants • Computation of Determinants • Cramers Rule 	4.2, 4.3

EXAM	11-19	Exam: Material Class 5-7	XXXXXXXX
No class	11-26	NO MEETING: THANKSGIVING	XXXXXXXX
9	12-3	Eigenvalues and Eigenvectors	5.1
10	12-10	Applications	TBD
EXAM DUE	12-17	Final Exam Due	All sections

NEW YORK UNIVERSITY
DEPARTMENT OF TEACHING AND LEARNING

E12.2102: Linear Algebra - Course Outline

- INSTRUCTOR: Professor Kenneth Goldberg; 239 Greene Street, Rm 637.
(212) 998-5213 (tel); Goldbrgk@is2.nyu.edu (e-mail)
(212) 995-4049 (fax)
- OFFICE HOURS: I will be in most afternoons and evenings. To make an appointment to meet with me, call the secretary (Gary or Julie) at (212) 998-5200. They will have my appointment schedule for the upcoming week.
- CLASS DAYS/TIMES: Tuesdays, 4:20-6:00 PM
September 10, 17, 24
October 1, 8, 15, 22, 29 (No class due to math conference)
November 5, 12, 19, 26
December 3, 10 or 17 (Final Exam)
- PLACE: 640 East Building, small conference room.
- TEXTBOOK: Elementary Linear Algebra (Sixth Edition), by Bernard Kolman (Prentice Hall). I will also be using some hand-outs from journals and application modules.
- CALCULATORS: Since linear algebra includes work with matrices, I will be using a TI-82 graphing calculator (which does matrix operations) in class. If you have a calculator of any type that does matrix operations, bring it with you and use it.
- EXAMS, HOMEWORK AND GRADES: We will have homework assigned at the end of every class that needs to be handed in to me the next class meeting (with you keeping a copy for use in class discussions). We will also have a final exam on either December 17.
- ABSENCES: You are allowed 3 absences. Get the telephone number of someone in the class to call in case you are absent so that you can find out what was covered and get the homework assignment. Or, just e-mail me and ask.