

MATH 254: INTRODUCTION TO LINEAR ALGEBRA

SUMMER SESSION, 2002
COURSE REFERENCE NUMBER (CRN): 01016
3.0 Units; Mon. and Wed., 6:30-9:45pm in Room K-101

INSTRUCTOR: Ken Kuniyuki

Email address: kkuniyuk@yahoo.com (I check my email on a daily basis.)

Office Hours: Mon.-Thurs.: 5:15-6:15pm in H-212, Office F.
You are encouraged to discuss any and all concerns with me.

Mailbox: H-212 (or H-207, which leads to the same room). There is a wooden cabinet consisting of cubbyholes labeled alphabetically by last name; mine has a white label.

Voice Mail: (619) 252-4839 (I will try to check this every day, but email is better!)

ACCOMMODATIONS

Students with disabilities or medical concerns who may need academic accommodations should notify their professors immediately. Visit the DSPS Office in Room H-202; it could raise your GPA dramatically!! Phone: (619) 388-2780; for the hearing/speech impaired: (619) 388-1968. Hours: Mon.-Fri. 7:50am-5pm, except 7:50am-7pm on Wed.

If you expect to be involved in professional or college activities (such as sports) that may, for example, hinder your ability to attend class, submit homework, and/or take exams, let me know as soon as possible so that accommodations may be made.

TEXTBOOK AND SUPPLEMENT

Elementary Linear Algebra: Special Edition for San Diego Mesa College (4th Edition)
by Larson and Edwards. (Houghton Mifflin, 2000)

(Optional: the Student Solutions Guide for the above)

PREREQUISITES

A grade of "C" or better in Math 151 (Calculus II); or a comparable grade in an equivalent course. Add codes will not work if prerequisites are not satisfied.

COURSE DESCRIPTION

Catalog Description

This course covers matrix algebra, Gauss elimination, determinants, vector spaces, linear transformations, orthogonality, eigenvalues and eigenvectors.

COURSE OBJECTIVES

From the District's Course Outline (I may modify this.)

Upon successful completion of the course the student will be able to:

1. Analyze vector spaces.
2. Define and apply linear transformation theory.
3. Find eigenvalues and eigenvectors and apply them to problems.
4. Perform matrix algebra.
5. Diagonalize matrices.
6. Find, orthogonalize and normalize bases for vector spaces.
7. Coordinatize vectors with respect to bases.
8. Evaluate determinates.

CALENDAR (KEEP UP WITH THE "TENTATIVE SCHEDULE")

Class will meet every Monday and Wednesday (for eight weeks) from Monday, June 17 until Wednesday, August 7. Therefore, we will meet for 16 days. **The Final will be held on the last day of class, Wednesday, August 7, in our regular room.**

DEADLINES

Dropping without a "W"; add codes (*)	Tues.	June 25	Week 2
Refund eligibility for dropped classes	Fri.	June 28	Week 2
Credit / No Credit petition	Tues.	July 2	Week 3
Withdrawal deadline (**)	Fri.	July 19	Week 5
Grades available on GradesLine	Mon.	Aug. 19	

(*) Tuition and fees must be paid within five days of adding a course, or by June 25, whichever comes first.

(**) If you do not withdraw from the class by this deadline, I must give you a standard A-F grade.

GRADES

Cheating is, of course, forbidden. Possible penalties include assigned scores of "0", a course grade of "F", and action by the school dean. Refer to Policy 3100 in the Mesa College catalog. Collaboration outside of class is encouraged, but copying is forbidden, and any attempts to compromise exam security will not be tolerated.

Your course score will be out of 750 points (750 points = "100%"), divided as follows:

MIDTERMS: 450 points (which is 60% of 750 points)

-- 3 midterms given, each worth 150 points

Bring a scientific calculator to all exams. Graphing calculators may be forbidden or their use curtailed; grade reductions may result from their use.

TENTATIVE MIDTERM PLAN

	Midterm 1 Topics
Chapter 1	Systems of Linear Equations
Chapter 2	Matrices
Chapter 3	Determinants

	Midterm 2 Topics
Chapter 4	Vector Spaces
Chapter 5	Inner Product Spaces

	Midterm 3 Topics
Chapter 6	Linear Transformations
Chapter 7	Eigenvalues and Eigenvectors

	Also fair for the Final!
Chapter 8	Complex Vector Spaces

No notes or books are allowed on the midterms.

Do not expect to be able to make up exams. Even if the instructor allows a student to take a makeup exam, there are no guarantees; for example, the exam may be heavily penalized or not graded or returned at all. In any event, a student should inform the instructor as soon as possible if s/he knows that s/he will miss an exam date.

HOMEWORK: 60 points (8%)

-- 20 points for each of 3 submissions

Although you are strongly encouraged to do problems as soon as they are assigned, homework assignments will only be collected on the day of the corresponding midterm.

Answers to the odd-numbered problems are in the back of the textbook. More detailed solutions to these problems are in the Student Solutions Guide. It is your responsibility to use the Student Solutions Guide wisely.

On your homework, show work where appropriate. Points may be deducted from homework assignments that are turned in late, that are incomplete or illegible, or that have insufficient work.

Failure to do homework in a timely manner can wreck your grade in this class - in terms of both points and exam preparation!

It is important that you write your name on all submitted work.

CLASS PARTICIPATION: 40 points (about 5%)

This involves class attendance, disruptive behavior, and participation in in-class activities and exercises. Class participation may be used to determine grade "borderline" cases.

FINAL: 200 points (about 27%)

The course final will be administered on **Wed., Aug. 7**, the last day of class, in our regular room. The final will essentially be comprehensive.

You will be allowed to use one 8 1/2" by 11" sheet of notes and a scientific calculator. You may use both sides of the sheet. Students with vision impairments should speak with me. The sheet must be two-dimensional - no "pull-outs" or other tricks! Typing and photocopying are fine, though writing by hand is recommended. You should stress organization over clutter.

The following are guarantees:

<u>Course score out of 750</u>	<u>Grade guarantee</u>
At least 675 (90%)	A
At least 600 (80%)	B or better
At least 525 (70%)	C or better
At least 450 (60%)	D or better

Percents may not necessarily be rounded up!!

The course may be taken on a Credit / No Credit basis, but check your program requirements, first. The petition deadline is Tuesday, July 2 (Week 3).

Extra credit may be assigned in any of the aforementioned grade components as deemed appropriate by the instructor.

COME TO CLASS WITH:

- The textbook
- A scientific (not graphing) calculator - you will need one for the course.
Graphing calculators may be forbidden on exams.
- Some paper and a pencil or pen: for notetaking and in-class exercises
- Homework (on exam dates; keep yourself updated on changes to our schedule!!)

Ø KIDS

Children are forbidden in the classroom. Check with the Child Development Center in Building R.

ATTENDANCE

Students who are absent for the equivalent of one or more class meetings (i.e., at least three hours) or roll calls may be dropped from the course without notice; refer to Policy 3110 in the Mesa College catalog. Students who miss the first day of class may also be dropped. **It is VERY important for you to be in class throughout the entirety of the scheduled time. I consider tardiness and premature departures as forms of absences, particularly if habitual; many students are distracted by such behavior. Your attendance and tardiness record may also affect your grade.** You must inform me of medical priorities and the like as soon as possible.

CLASSROOM BEHAVIOR AND STUDENT CODE OF CONDUCT:

Students are expected to respect and obey standards of student conduct while in class and on the campus. The student Code of Conduct, disciplinary procedure, and student due process (Policy 3100, 3100.1 and 3100.2) can be found in the current college catalog in the section Academic Information and Regulations (pages 39-51), and at the office of the Dean of Student Affairs (H-500). Charges of misconduct and disciplinary sanctions may be imposed upon students who violate these standards of conduct or provisions of college regulations.

Disruptive behavior will not be tolerated; disruptive students may be removed from the class and are especially likely to be dropped from the course. Disruptive behavior includes, among other things, inappropriate talking, eating or drinking in class, tardiness, and premature departures. Your class participation score may be affected. Discuss personal scheduling issues with the instructor. Refer to Policy 3100 in the Mesa College catalog.

REMEMBER TO TURN OFF YOUR CELL PHONE!!!

RESPONSIBILITY TO ADD, DROP, OR WITHDRAW ("OFFICIAL POLICY")

It is the student's responsibility to add, drop, or withdraw from class before the deadlines stated in the class schedule. Petitions to add, drop, or withdraw after the deadline will not be approved without proof of circumstances beyond the student's control which made him/her unable to meet the deadline. Lack of money to pay fees is not considered an extenuating circumstance. Students anticipating difficulty in paying fees before the add deadline should check with the Financial Aid Office about sources of funds or other alternatives for which they may be eligible.

If you decide to withdraw from this course, you are reminded to do so by Friday, July 19. If you fail to withdraw by that date and you stop coming to class, a final grade must be assigned to you.

Please discuss your plans to withdraw from class with your instructors. They may have other options for you that may allow you to continue in class.

INSTRUCTOR ABSENCE (DISTRICT POLICY)

If neither the instructor nor a substitute appears at the beginning of the scheduled class time, students shall wait 20 minutes; if neither the instructor nor a substitute appears within those 20 minutes, students may leave the classroom.

ADDITIONAL HELP

- Center for Independent Learning (Learning Resource Center - "The Library"; 4th floor). **Several collections of videotapes are available!!** Library Hours: Mon.-Thu. 7am-9pm, Fri. 7am-5pm, and Sat. 8am-3pm. Phone: (619) 388-2769.
- Tutoring Center (Room K-211). Walk-in tutoring for Math and Science. Hours: Mon.-Thu. 8am-6pm. Phone: 619-388-2898. You will need to sign up for the 0-unit Credit/No Credit "course" Math 44: CRN 96565. No extra work is required.

CHECK OUT THESE NEAT WEB SITES!

(The instructor bears no responsibility for these sites.)

- www.cut-the-knot.com
A wonderful collection of games, puzzles, and other mathematical recreations
- www.math.hmc.edu/funfacts
Interesting topics in a variety of mathematical fields

NOTES / CLASS CONTACTS

VERY TENTATIVE SCHEDULE (VERSION 1)

6/17/2002

Key:

HW = I may take questions, especially homework questions.

Some HW = I may take a few questions.

(See me in my office hours throughout the summer whenever you have questions.)

(Sections in parentheses) = We will discuss these sections, but the first upcoming exam will not cover them.

Week (Deadlines)	MONDAY	WEDNESDAY
1	6/17 Hello 1.1, 1.2	6/19 1.2, 1.3 2.1
2 Add, No W (Tue. 6/25) Refunds (Fri. 6/28)	6/24 2.2, 2.3, 2.4	6/26 2.4, 2.5 3.1, 3.2, 3.3
3 C/NC petition (Tue. 7/2) (Holiday: Thu., 7/4)	7/1 3.4 (4.1) HW	7/3 Some HW MID 1 (Chs.1,2,3) 4.2, 4.3
4	7/8 4.3, 4.4, 4.5	7/10 4.6 5.1
5 W deadline (Fri. 7/19)	7/15 5.2, 5.3 (6.1) Some HW	7/17 (6.2, 6.3) HW
6	7/22 MID 2 (Chs.4,5) 6.4 7.1	7/24 7.1, 7.2, 7.3 (8.1)
7	7/29 (8.1, 8.2, 8.4) HW	7/31 MID 3 (Chs.6,7) HW
8	8/5 HW Review	8/7 Some HW FINAL