

SYLLABUS

Instructor: Dr. Yun Yoo

Course Number: Math 270, Linear Algebra **CRN:** 50439 **Section:** 001

Class Time: M / T / W / Th ; 11:30 am and 1:20 pm between May 16 and June 30, 2011

Classroom: M3-19

E-mail: ywoo@ccp.edu (The best way contact me)

Office: B1-9D

Phone: 215-751-8317

Course Webpage: <http://faculty.ccp.edu/faculty/ywoo/> (You can find all information)

Text: **Linear Algebra and Its Applications by David C. Lay, 4th Edition**

Course Description: Matrices, determinants, vector spaces, inner product spaces, eigenvalues, eigenvectors, linear transformations and applications.

Calculator: Not required.

Prerequisites: MATH 171 with a grade of "C" or better and MATH 172 with a grade of "C" or better. (MATH 172 may be taken concurrently.)

Homework: It is especially important that you keep up with the homework. We will discuss some of these problems in class, and I will be glad to help you outside class as well, but it is your responsibility to do the work. **Homework will be assigned at the end of class (also on the web), but it will not be collected.**

Attendance: **Attendance will be taken at each class by means of an "Attendance Quiz." These are for practice and fun.** I will give you solutions of each AQ at the end of class so that you shouldn't ask me solutions before taking exam. There is a college policy allowing at most 6 absences during the semester. In the event that you do not meet this policy, you may be dropped from the class. Regular attendance is necessary in order to master the material. It is your responsibility to find out what you have missed due to absence. It is important that you try to do the work you have missed.

Test: There will be 3 tests and a comprehensive final exam.

Test 1: Thursday, May 26, 2011

Test 2: Thursday, June 9, 2011

Test 3: Thursday, June 23, 2011

Final Exam: Thursday, June 30, 2011

All exams are counted towards a student's course grade. Everyone must take the Comprehensive Final Exam. If not, you will get "F".

<u>May</u>					<u>June</u>								
Mo	Tu	We	Th	Fr	Sa	Mo	Tu	We	Th	Fr	Sa		
W1	16	17	18	19	20	21	W4	6	7	8	9	10	11
W2	23	24	25	26	27	28	W5	13	14	15	16	17	18
W3	30	31	1	2			W6	20	21	22	23	24	25
							W7	27	28	29	30		

Makeup Policy: Make-ups are the discretion of the instructor and require prior approval and a written, acceptable medical excuse. Students who are absent without notice from an exam are expected to contact the instructor as soon as able to address this absence. Students who do not contact the instructor within a reasonable time frame after being absent from an exam will receive a score of zero for that exam.

Help

There are several resources for students with questions. First and foremost, you should participate and ask questions in class. If you still have unanswered questions, please feel free to stop by my office during the office hours. More importantly, **CCP provides free tutoring and workshops in Room B2-36 (South Learning Lab) for daytime and Room B1-28 (Central Learning Lab) for evening time.** Many students find it helpful to form study groups for doing homework and studying for tests. It is a great way to learn materials.

Grading: The course average will be computed using **the average of the three tests (75%) and the final (25%)**. All exams are scored out of 100 points. Your written final grade will be determined as follow:

90-100 % (360-400 points)	A
80-89 % (320-359 points)	B
70-79 % (280-319 points)	C
60-69 % (240-279 points)	D
0-59 % (0-239 points)	F

Summer I Semester 2011:

Summer I 2011 (7A-week) Session begins: Monday, May 16, 2011.

Monday, May 30-Memorial Day Holiday-College Closed.

Final day to drop course for summer I 2011 without penalty of 'F' grade: **Thursday, June 16, 2011.**

Summer I 2011 (7A-week) Session ends: Thursday, June 30, 2011.

Final Remarks:

- **Turn off cell phones, other electronic devices, and iPod.**
- **Side conversations should be kept to the strictest minimum.**
- **Avoid any behavior that can be disturbing to the class.**
- **Be respectful to me and to your classmates.**
- **Unruly or disruptive behavior is unacceptable.**
- **No food or gum during class.**
- **If you need to leave the classroom early, do it as quietly as possible.**

Lecture Schedules

Text: Linear Algebra and Its Applications, by David C. Lay, 4th Edition

Week #1 (May 16-19)	M	1.1 Systems of Linear Equations
	T	1.2 Row Reduction and Echelon Forms
	W	1.3 Vector Equations; 1.4 The Matrix Equation $A \vec{x} = \vec{b}$
	Th	1.5 Solutions Set of Linear Systems
Week #2 (May 23-26)	M	1.7 Linear Independence
	T	1.8 Introduction to Linear Transformations 1.9 The Matrix of a Linear Transformation
	W	2.1 Matrix operations 2.2 The Inverse of a Matrix
	Th	Test 1
Week #3 (May 29-June 2)	M	No class
	T	2.3 Characterizations of Invertible Matrices 2.5 Matrix Factorizations
	W	2.8 Subspaces of \mathbb{R}^n 2.9 Dimension and Rank
	Th	3.1 Introduction to Determinants 3.2 Properties of Determinants
Week #4 (June 6- 9)	M	3.3 Cramer's Rule, Volume, and Linear Transformations
	T	4.1 Vector Spaces and Subspaces 4.2 Null space, Column Spaces, and Linear Transformations
	W	4.3 Linearly Independent Sets; Bases 4.4 Coordinate Systems
	Th	Test 2
Week #5 (June 13-16)	M	4.5 The Dimension of a Vector Space
	T	4.6 Rank
	W	4.7 Change of Basis
	Th	5.1 Eigenvectors and Eigenvalues

Week #6 (June 20-23)	M	5.2 The Characteristic Equation
		5.3 Diagonalization
	T	7.1 Diagonalization of Symmetric Matrices
	W	5.4 Eigenvectors and Linear Transformations
	Th	Test 3
Week #7 (June 27-30)	M	6.1 Inner Product, Length, and Orthogonality
		6.2 Orthogonal Sets
	T	6.3 Orthogonal Projections
	W	6.4 The Gram-Schmidt Process
	Th	Comprehensive Final Exam