

Course Syllabus

Math – 306: Linear Algebra

Spring 2015

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Lecture Location: Price Hall 214	Lecture Times: MWF 10:30 – 11:35 AM
Textbook: Linear Algebra with Applications, Steven Leon, 9 th edition, Pearson, 2014	Office Hours: Tu/Th 3:00 – 4:30, or by appointment

Course Description

This course covers the systems of linear equations, vector spaces, dependence, basis, dimension, linear transformations, determinants, eigenvalues, eigenvectors, orthogonal matrices, curves of best fit, quadratic forms. Attention given to computational, and graphical applications and argumentation. Includes an introduction to the MATLAB software.

Prerequisite: MATH 226 and MATH 240 each with a minimum grade of C.

Resources

Textbook: Students must purchase the textbook. For convenience Chap. 1 is posted on Moodle.

Calculator: A graphing calculator (TI-84, or similar) might prove helpful, but is not necessary.

Moodle: All assignments and additional course materials can be viewed on the course Moodle site.

Course Format and Grading

Homework and Activities (15%): Homework will be graded on completeness, presentation, and possibly performance on select problems. Homework must be stapled in the upper left corner with your name and the assignment listed on the first page. Homework that is difficult to read or for which completion is not evident may receive a lower score. Activities will generally be completed in class.

Quizzes, Projects and Labs (15%): Upon completion of each homework assignment a quiz consisting of a few problems from that homework will be administered in class. There may be several projects and/or labs assigned. Projects/Labs may require use of the department's MATLAB software.

Exams (70%): There will be two midterm exams. Midterm exams will be administered during class, and may be cumulative. The final exam will be worth twice as much as a single midterm exam. The final will be administered in our normal classroom. You must take the final at your assigned time. Please make your travel arrangements accordingly.

Course grade breakdown:		Important dates:
Overall %	Letter Grade	Friday, Feb. 6: Add/drop (w/o record) deadline.
[93,100]	A	
[90,93)	A-	March 21 - 29: Spring Break – No classes
[87,90)	B+	
[83,87)	B	Friday, Apr. 10: Last day to withdraw
[80,83)	B-	
[77,80)	C+	Tuesday, May 12: Final Exam, 8:30 AM
[73,77)	C	
[70,73)	C-	
[60,70)	D	
[0,60)	F	

Expectations

As a student enrolled in this course, you are expected to:

- Attend class, participate in class discussions, and ask questions.
- Familiarize yourself with sections of the textbook **prior** to their coverage in class.
- Complete all assigned work neatly, thoroughly, and on-time.
- Work enough additional problems to ensure comprehension of course material.
- Seek assistance from instructor or tutoring center when difficulties arise.

You should expect your instructor to:

- Arrive on time for lectures.
- Deliver well-prepared lectures.
- Establish clear course expectations.
- Evaluate coursework in a timely manner and provide constructive feedback.
- Be accessible and approachable outside of class.
- Promote an inclusive, supportive, and collaborative classroom environment.

Attendance Policy

Attendance is expected. Students with a record of arriving late or missing class will receive a warning and an alert of academic difficulty may be filed with the Associate Dean for Student Academic Affairs. If the behavior continues, further action (from a lower final grade to dismissal from the course) may result. Absences due to official Pacific University events are excused as long as you let me know at least one week in advance, so we can work together to schedule any necessary make-up activities.

Late/Missed Coursework Policy

Due dates for all coursework are firm and late work is not accepted. However, occasionally circumstances outside of a student's control prevent the timely submission of work. In recognition of this, every student's lowest homework/activities score and lowest quiz/proj/lab score will be dropped.

Academic Misconduct Policy

Pacific University has no tolerance for academic misconduct/dishonesty. It is university policy that all acts of misconduct and dishonesty be reported to the Associate Dean for Student Academic Affairs. Additionally, grade-related sanctions for such misconduct may be imposed at the discretion of the course instructor. These sanctions can range from a reduction of grade on a single assignment to an "F" for the course. Depending upon the severity of the actions, academic misconduct may result in suspension or dismissal from the university. Forms of academic misconduct include, but are not limited to, plagiarism, fabrication, cheating, tampering with grades, forging signatures, and using electronic information resources in violation of acceptable use policies.

Learning Support Services for Students with Disabilities

If you have documented challenges that will impede your learning in any way, please contact our LSS office in Clark Hall (ext.2107). The Director or Assistant Director will meet with students, review the documentation of their disabilities, and discuss the services that Pacific offers and any appropriate ADA accommodations for specific courses.

Tutoring and Learning Center (TLC)

The TLC is located in Scott Hall 127. The center focuses on delivering one-on-one and group tutoring services for math and science courses and writing skills in all subjects. Students should consult with the center's director for information on tutoring available for other subjects. Day and evening hours; walk-ins welcome.

Math 306 – Course Calendar – Spring 2015

	Mon	Wed	Fri
Jan 26 –30	1.1 Systems of Linear Equations	1.2 Row Echelon Form	1.3 Matrix Arithmetic
Feb 2 – 6	1.4 Matrix Algebra	1.5 Elementary Matrices	1.6 Partitioned Matrices Homework Quiz 1 Due: Homework 1
Feb 9 - 13	2.1 The Determinant of a Matrix	2.2 Properties of Determinants	2.3 Additional Topics Homework Quiz 2 Due: Homework 2
Feb 16 - 20	3.1 Introduction to Vector Spaces	3.2 Subspaces	3.3 Linear Independence Homework Quiz 3 Due: Homework 3
Feb 23 – 27	3.4 Basis and Dimension	3.5 Change of Basis	3.6 Row Space and Column Space Homework Quiz 4 Due: Homework 4
Mar 2 – 6	Review/Buffer Day	Midterm Exam 1 Covers Chaps. 1-3	4.1 Introduction to Linear Transformations Homework Quiz 5 Due: Homework 5
Mar 9 - 13	4.2 Matrix Representations of Linear Transformations	4.3 Similarity	5.1 The Scalar Product
Mar 16 - 20	5.2 Orthogonal Subspaces	5.3 Least Squares Problems	5.4 Inner Product Spaces Homework Quiz 6 Due: Homework 6
Mar 23 – 27	Spring Break	Spring Break	Spring Break
Mar 30 – April 3	5.5 Orthonormal Sets	5.6 Gram-Schmidt	5.7 Orthogonal Polynomials Homework Quiz 7 Due: Homework 7
April 6 – 10	Review/Buffer Day	Midterm Exam 2 Covers Chaps. 1-5	6.1 Eigenvalues and Eigenvectors Homework Quiz 8 Due: Homework 8
April 13 – 17	6.2 Systems of Linear Differential Equations	6.3 Diagonalization	6.4 Hermetian Matrices
April 20 – 24	6.5 Singular Value Decomposition	Senior Projects Day No Class	6.6 Quadratic Forms Homework Quiz 9 Due: Homework 9
April 27 – May 1	6.7 Positive Definite Matrices	6.8 Nonnegative Matrices	Review/Buffer Day Homework Quiz 10 Due: Homework 10
May 4 – 8	Course Evaluations Final Exam Review		

Final Exam: Tuesday, May 12, 8:30 – 11:00 AM

Be advised that everything listed in this syllabus is somewhat tentative and subject to minor changes as circumstances dictate. However, any changes that become necessary will be communicated as soon as possible to students either during lectures, through email, or on Moodle.