

South Plains College
Mathematics Department
Linear Algebra – MATH 2318
Course Syllabus
Fall 2017

Instructor: Jay Driver
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Office Hours: MW 3:05-3:35pm
TR 11:00-12:00pm, 1:30-2:30pm
F 9:00-12:00
And by appointment!

Course Description: MATH 2318. LINEAR ALGEBRA. (3:3:0) Prerequisite: MATH 2413.
This course is a survey of finite dimensional vector spaces, linear transformations and matrices, eigenvalues and eigenvectors. (copied from the current SPC catalog)

Course Objectives: Successful completion of this course should reflect mastery of the following objectives.

1. Be able to solve systems of linear equations using multiple methods, including Gaussian elimination and matrix inversion.
2. Be able to carry out matrix operations, including inverses and determinants.
3. Demonstrate understanding of the concepts of vector space and subspace.
4. Demonstrate understanding of linear independence, span, and basis.
5. Be able to determine eigenvalues and eigenvectors and solve problems involving eigenvalues.
6. Apply principles of matrix algebra to linear transformations.
7. Demonstrate application of inner products and associated norms

Textbook: Textbook references for this course may be any one of the following:

- Larson, R., Edwards, B. H. & Falvo, D. C. (2004). Elementary Linear Algebra, Fifth ed. Boston, MA: Houghton Mifflin Company. ISBN 0-618-33567-6.
- Larson, R. & Falvo, D. C. (2009). Elementary Linear Algebra, Sixth ed. Boston, MA: Houghton Mifflin Company. ISBN 0-618-78376-8.
- Larson, R. (2013). Elementary Linear Algebra, Seventh ed. Boston, MA: Brooks/Cole. ISBN 978-1-133-11087-3.
- Larson, R. (2017). Elementary Linear Algebra, Eighth ed. Boston, MA: Cengage Learning. ISBN 978-1-305-65800-4.

Attendance: Attendance and effort are the most important activities for success in this course. Class attendance may be taken at any time during the class period, so please do not arrive late or leave early. You may be dropped from this course with a grade of X or F if you are absent four consecutive classes or if you exceed six absences throughout the semester. Be on time and silence any cell phones before entering the classroom.

Assignments & Grading: Homework assignments will be made at each class meeting. Quizzes may be administered at any time. Keep all class materials (notes, handouts, homework, quizzes, and exams) organized in a notebook (3-ring binder). These materials are subject to be turned in for grading at any time. Please make certain all materials accompany you to each class meeting. No late assignments will be accepted. Daily work (homework, quizzes, notebook) will count for 20% of the final grade, while all exams count for 80% of the final grade. Expect four major exams (15% each) throughout the course and a cumulative final exam (20%) at the end of the course. Your final average in the course will determine the letter grade posted on your transcript. This grade is determined by the following scale: A (90-100%), B (80-89%), C (70-79%), D (60-69%), F (0-59%).

Blackboard: Blackboard is the online course management system that will be utilized for this course. This course syllabus, as well as any class handouts can be accessed through Blackboard. Login at <http://southplainscollege.blackboard.com>. The user name and password should be the same as the MySPC and SPC email.

User name: first initial, last name, and last 4 digits of the Student ID

Password: Original CampusConnect Pin No. (found on SPC acceptance letter)

Questions regarding Blackboard support may be emailed to blackboard@southplainscollege.edu or by telephone to 806-716-2180.

Supplies: You will need a calculator capable of matrix algebra (a TI-graphing calculator such as the TI-84 works well), a minimal supply of graph paper, and a 3-ring binder. Calculators on cell phones or other electronic devices are strongly discouraged and will not be allowed during testing without permission.

Disability: Students with disabilities, including but not limited to physical, psychiatric, or learning disabilities, who wish to request accommodations in this class should notify the Disability Services Office early in the semester so that the appropriate arrangements may be made. In accordance with federal law, a student requesting accommodations must provide acceptable documentation of his/her disability to the Disability Services Office. For more information, call or visit the Disability Services Office at Levelland (Student Health & Wellness Office) 806-716-2577, Reese Center (Building 8) & Lubbock Center 806-716-4675, or Plainview Center (Main Office) 806-716-4302 or 806-296-9611.

South Plains College does not discriminate on the basis of race, color, national origin, sex, disability or age in its programs and activities. The following person has been designated to handle inquiries regarding the non-discrimination policies: Vice President for Student Affairs, South Plains College -1401 College Avenue, Box 5, Levelland, TX 79336, 806-894-9611.

Campus Concealed Carry - Texas Senate Bill - 11 (Government Code 411.2031, et al.) authorizes the carrying of a concealed handgun in South Plains College buildings only by persons who have been issued and are in possession of a Texas License to Carry a Handgun. Qualified law enforcement officers or those who are otherwise authorized to carry a concealed handgun in the State of Texas are also permitted to do so. Pursuant to Penal Code (PC) 46.035 and South Plains College policy, license holders may not carry a concealed handgun in restricted locations. For a list of locations, please refer to the SPC policy at: (http://www.southplainscollege.edu/human_resources/policy_procedure/hhc.php).

Pursuant to PC 46.035, the open carrying of handguns is prohibited on all South Plains College campuses. Report violations to the College Police Department at 806-716-2396 or 9-1-1.

Linear Algebra Tentative Course Outline

MATH 2318.001 (MW 11:00 – 12:15pm)

Fall 2017

Week	Day	Date	Lesson Topic
1	Monday	August 28	<i>Assignment 1: Linear Systems</i>
	Wednesday	August 30	<i>Assignment 2: Gauss-Jordan Elimination (GJE)</i>
2	Monday	September 4	<i>Labor Day holiday</i>
	Wednesday	September 6	<i>Assignment 3: Applications of Linear Systems</i>
3	Monday	September 11	<i>Assignment 4: Summations</i>
	Wednesday	September 13	<i>Assignment 5: Matrix Operations & Properties</i>
4	Monday	September 18	<i>Assignment 6: Matlab #1</i>
	Wednesday	September 20	Exam 1 (15%)
5	Monday	September 25	<i>Assignment 7: Matrix Inverses</i>
	Wednesday	September 27	<i>Assignment 8: Special Matrices</i>
6	Monday	October 2	<i>Assignment 9: Determinants</i>
	Wednesday	October 4	<i>Assignment 10: Determinant Properties</i>
7	Monday	October 9	<i>Assignment 11: Determinant Applications</i>
	Wednesday	October 11	Exam 2 (15%)
	Friday	October 13	<i>Fall Break (SPC closed)</i>
8	Monday	October 16	<i>Assignment 12: Vector Spaces</i>
	Wednesday	October 18	<i>Assignment 13: Linear Independence</i>
9	Monday	October 23	<i>Assignment 14: Basis / Dimension</i>
	Wednesday	October 25	<i>Assignment 15 Rank / Change of Basis</i>
10	Monday	October 30	<i>Assignment 16 Vector Operations part 1 of 2</i>
	Wednesday	November 1	<i>Assignment 17 Vector Operations part 2 of 2</i>
11	Monday	November 6	<i>Assignment 18: Matlab #2</i>
	Wednesday	November 8	Exam 3 (15%)
12	Monday	November 13	<i>Assignment 19: Linear Transformations & Matrices of Linear Transformations</i> <i>Online registration opens for the Winter Interim and Spring 2018 at 8:00am</i>
	Wednesday	November 15	<i>Assignment 20: Transition Matrices & Similarity</i>
	Thursday	November 16	<i>Last day to drop a class at SPC</i>
13	Monday	November 20	<i>Assignment 21: Eigenvalues / Eigenvectors</i>
	Wednesday	November 22	<i>Thanksgiving holiday</i>
14	Monday	November 27	<i>Assignment 22: Diagonalization & Orthogonal Diagonalization</i>
	Wednesday	November 29	Exam 4 (15%)
15	Monday	December 4	<i>Assignment 23: Applications of Eigenvalues and Eigenvectors</i>
	Wednesday	December 6	<i>Assignment 24: Review for comprehensive final exam</i>
16	Monday	December 11	Final Exam (20%) from 10:15am-12:15pm