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

Instructor: Jay Driver
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Office Hours: MW 10:45-11:30pm, 4:35-5:00pm (Levelland)
TR 2:00-3:30pm (Reese Center)
F 9:00-12:00 (Levelland)
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: The textbook suggested for this course may be any 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, Cengage Learning. ISBN 1-133-11087-8.

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. For more information, call or visit the Disability Services Office in the Student Health & Wellness Office, 806-716-2577.

Equal Opportunity: South Plains College strives to accommodate the individual needs of all students in order to enhance their opportunities for success in the context of a comprehensive community college setting. It is the policy of South Plains College to offer all educational and employment opportunities without regard to race, color, national origin, religion, gender, disability or age.

Diversity: In this class, the teacher will establish and support an environment that values and nurtures individual and group differences and encourages engagement and interaction. Understanding and respecting multiple experiences and perspectives will serve to challenge and stimulate all of us to learn about others, about the larger world and about ourselves. By promoting diversity and intellectual exchange, we will not only mirror society as it is, but also model society as it should and can be.

Linear Algebra Tentative Course Outline
MATH 2318.001 (MW 1:00 – 2:15pm)
Spring 2017

Week	Day	Date	Lesson Topic
1	Wednesday	January 18	Linear Systems
2	Monday	January 23	Gauss-Jordan Elimination (GJE)
	Wednesday	January 25	Applications of Linear Systems
3	Monday	January 30	Summations
	Wednesday	February 1	Matrix Operations & Properties
4	Monday	February 6	Maple Lab #1
	Wednesday	February 8	**Exam 1 (15%)**
5	Monday	February 13	Matrix Inverses
	Wednesday	February 15	Special Matrices
6	Monday	February 20	Determinants
	Wednesday	February 22	Determinant Properties
7	Monday	February 27	Determinant Applications
	Wednesday	March 1	**Exam 2 (15%)**
8	Monday	March 6	Vector Spaces
	Wednesday	March 8	Linear Independence
		March 13-17	*Spring Break*
9	Monday	March 20	Basis / Dimension
	Wednesday	March 22	Rank / Change of Basis
10	Monday	March 27	Vector Operations part 1 of 2
	Wednesday	March 29	Vector Operations part 2 of 2
11	Monday	April 3	Maple Lab #2
	Wednesday	April 5	**Exam 3 (15%)**
12	Monday	April 10	Linear Transformations & Matrices of Linear Transformations
	Wednesday	April 12	Transition Matrices
13	*Monday*	*April 17*	*Easter Holiday*
	Wednesday	April 19	Eigenvalues / Eigenvectors
	Wednesday	*April 19*	*Online Registration for Spring Interim, Summer, and Fall Opens at 8:00am*
14	Monday	April 24	Diagonalization & Orthogonal Diagonalization
	Wednesday	April 26	**Exam 4 (15%)**
	Thursday	*April 27*	*Last day to drop spring semester courses*
15	Monday	May 1	Applications of Eigenvalues and Eigenvectors
	Wednesday	May 3	Review for comprehensive final exam
16	Monday	May 8	**Final Exam (20%)** from 1:00-3:00pm