South Plains College
Mathematics Department
Linear Algebra – MATH 2318
Course Syllabus
Fall 2016

Instructor: Jay Driver
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Office Hours: MW 10:40-11:30am.
                TR 10:40am-12:30pm.
                F 9:00am-12:00pm.
                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 (TR 1:00pm – 2:15pm)
Fall 2016

Week	Day	Date	Lesson Topic
1	Monday	August 29	Linear Systems
	Wednesday	August 31	Gauss-Jordan Elimination (GJE)
2	*Monday*	*September 5*	*Labor Day Holiday*
	Wednesday	September 7	Applications of Linear Systems
3	Monday	September 12	Summations
	Wednesday	September 14	Matrix Operations & Properties
4	Monday	September 19	Maple Lab #1
	Wednesday	September 21	**Exam 1 (15%)**
5	Monday	September 26	Matrix Inverses
	Wednesday	September 28	Special Matrices
6	Monday	October 3	Determinants
	Wednesday	October 5	Determinant Properties
7	Monday	October 10	Determinant Applications
	Wednesday	October 12	**Exam 2 (15%)**
	Friday	*October 14*	*SPC Fall Break (all offices closed)*
8	Monday	October 17	Vector Spaces
	Wednesday	October 19	Linear Independence
9	Monday	October 24	Basis / Dimension
	Wednesday	October 26	Rank / Change of Basis
10	Monday	October 31	Vector Operations part 1 of 2
	Wednesday	November 2	Vector Operations part 2 of 2
11	Monday	November 7	Maple Lab #2
	Wednesday	November 9	**Exam 3 (15%)**
	Thursday	*November 10*	*Online Registration for Spring Semester Opens at 8:00am*
12	Monday	November 14	Linear Transformations & Matrices of Linear Transformations
	Wednesday	November 16	Transition Matrices
	Thursday	*November 17*	*Last Day to Drop Fall Semester Courses*
13	Monday	November 21	Eigenvalues / Eigenvectors
	Wednesday	*November 23*	*Thanksgiving break November 23-25*
14	Monday	November 28	Diagonalization & Orthogonal Diagonalization
	Wednesday	November 30	**Exam 4 (15%)**
15	Monday	December 5	Applications of Eigenvalues and Eigenvectors
	Wednesday	December 7	Review for comprehensive final exam
16	Monday	December 12	**Final Exam (20%)** from 1:00-3:00pm