

Matrix Computations Syllabus & Homework Math 200 Section 001, Spring 2013

Professor: Fernando Schwartz, 204 Ayres Hall, fernando@math.utk.edu

Course Webpage: <http://www.math.utk.edu/~fernando>

Lectures: Tuesdays & Thursdays 11:10-12:25pm, HBB 102

Office Hours: Tuesdays 2-3pm, or by appointment.

Text: *Elementary Linear Algebra*, by Howard Anton, 10th Edition, Wiley Publishing Company.

Course Description: Class in Linear Algebra designed exclusively for engineers. It meets twice a week during the first 9 weeks of class, and has it a final during the last class period.

Course evaluation: 1 midterm, comprehensive final, homework. The midterm is worth up to 100 points; homework counts for up to 50 points; and the comprehensive final is worth up to 200 points. The maximum course score is 350. Homework is collected before the end of each class. Late homework is not accepted. Your homework score is the average of all but the worst assignment grade. Your final grade will be determined by the percentage of your final score to the maximum possible of 350. Letter grades are determined using the following scale:

Grade (Percentage): A (90-100); A- (87-89); B+ (83-86); B (80-82); B- (77-79); C+ (73-76); C (70-72); C- (67-69); D+ (63-66); D (60-62); D- (57-59); F (0-56).

Special Accommodations & Make-up Policy: Any student who feels that s/he may need an accommodation based on the impact of a disability should contact me privately to discuss your specific needs. Please contact the Office of Disability Services at 974-6087, or go to 2227 Dunford Hall, to coordinate reasonable accommodations for students with documented disabilities. If you find that circumstances will cause you to miss an exam, you must notify me prior to the exam. Besides email, you can leave a message for me at the departmental office 974-2461.

Classroom Etiquette: To maintain an appropriate learning environment in our large lecture hall please be considerate to the instructor and those around you. Come to class on time and stay the entire period, or ask to be excused if you need to leave early or arrive late.

Please turn off/silent all cell phones during class time. (No texting please.)

Laptops and music/video players must be stored during class as well. Do not talk to classmates at inappropriate times. Refrain from reading newspapers or working on other course-work during class.

Academic Integrity: We trust you will be committed to maintaining an atmosphere of intellectual integrity and academic honesty throughout this class. All students are expected to abide by the University Honor Statement:

“An essential feature of the University of Tennessee is a commitment to maintaining an atmosphere of intellectual integrity and academic honesty. As a student of the University, I pledge that I will neither knowingly give nor receive any inappropriate assistance in academic work, thus affirming my own personal commitment to honor and integrity.”

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Date	Topic(s) / Homework	Section(s)
1/10	SYSTEMS OF LINEAR EQUATIONS homework: 6, 10, 15, true-false (a)–(h)	1.1
1/15	GAUSSIAN ELIMINATION homework: 3,19,21,25,27,37,41/true-false (a)–(i)	1.2
1/17	MATRIX OPERATIONS homework: (1.3) 27, 29; (1.4) 18, 28, 39,	1.3, 1.4
1/22	INVERSES homework: (1.4) 54, 55; (1.5) 13,15,19	1.4, 1.5
1/24	INVERSES AND SYSTEMS, TRIANGULAR/SYMMETRIC MATRICES homework: (1.6) 18, 21, true/false (a)–(g); (1.7) 20, 21,22,32,33,41, true/false (all)	1.6, 1.7
1/29	APPLICATIONS OF LINEAR SYSTEMS homework: 3, 7, 11,15	1.8
1/31	DETERMINANTS homework: (2.1) 36,38,39,40,41; (2.2) 28, 29, 34, 35, 36; (2.3) 33, 34, 38, 39; Supplementary: 29, 33, 35, 36	ch.2
2/5	GEOMETRIC VECTORS AND ANALYTIC GEOMETRY homework: (3.1) 28, 30, 33; (3.2) 15, 16, 17, 18, 19, 32, 33, 34; (3.3) 5,7,9,19, 25	3.1, 3.2, 3.3
2/7	GEOMETRY OF EUCLIDEAN SPACE AND SYSTEMS homework: 9,13,17,21-24	3.4
2/12	MIDTERM EXAM (Tuesday)	
2/14	VECTOR SPACES AND SUBSPACES homework: (4.2) 1,2,3,4,5	4.1, 4.2
2/19	LINEAR INDEPENDENCE, COORDINATES, BASIS homework:(4.3) 3,7,8; (4.4) 3,9	4.3, 4.4
2/21	DIMENSION, CHANGE OF BASIS homework: ; (4.5) 7,8,9,13,16; (4.6) 1,2,12(b)(e),13(b)(e)	4.5, 4.6
2/26	ROW SPACE, COLUMN SPACE, AND NULL SPACE, MATRIX SPACES homework: 3,4,5,6,7,8,11,15, 16, 20	4.7
2/28	FUNDAMENTAL MATRIX SPACES homework: 2,4,5,7,8,12,16	4.8
3/5	GRAM-SCHMIDT PROCESS homework: (6.3)9,17, 21,23, 26 (7.1) 1,3,4 (4.7) 15, 16, 20	6.3
3/7	EIGENVALUES, EIGENVECTORS AND DIAGONALIZATION homework: (5.1) 5,8,13,15,23 (5.2) 7,9,15,17,23	5.1, 5.2
3/12	FINAL EXAM (Tuesday)	