

MATH 211 L08.

M.W.F. 14:00-14:50 in ST 141

Fall 2009

Instructor: Jędrzej Śniatycki, MS 320. Office hours (**by appointment**): Monday 15:00-16:00 and Wednesday 16:00-17:00.

Text: Keith Nicholson, Elementary Linear Algebra, McGraw-Hill, Second Edition.

Assignments: 11 webwork homework assignments. Taken together, the best 10 will count for 10% of the final grade.

Quizzes: Three 50 min. quizzes written in the labs. Each quiz counts for 8% of the final grade. Dates of quizzes to be determined.

Midterm test: One 50-minute term tests written during the lecture time. It will count for 16% of the final grade.

Final Exam (3 hours) scheduled by the Registrar. Credit: 50%

Detailed Lecture Schedule

September

Day	Date	Section	Topics	Quizzes	Due date
Wednesday	Sep 09		Motivational example		
Friday	Sep. 11	Sec. 1.2.	System of linear equations		
Monday	Sep. 14	Sec. 1.2.	Gaussian elimination, Rank		
Wednesday	Sep. 16	Sec. 1.3	Homogeneous systems		
Friday	Sep. 18	Sec. 1.1 & 1.4.1	Matrices		
Monday	Sep. 21	Sec. 1.4.2 - 1.4.3	Matrices and linear equations		
Wednesday	Sep. 23	Sec. 1.4.4	Block multiplication	Quiz 1a	
Friday	Sep. 25	Sec. 1.5.1 - 1.5.2	Matrix inverses	Quiz 1b	Ass. 1
Monday	Sep. 28	Sec. 1.5.3 - 1.5.4	Matrix inversion algorithm		
Wednesday	Sep. 30	Sec. 1.5.5	Conditions for invertibility		

October

Day	Date	Section	Topics	Quizzes	Due date
Friday	Oct. 02	Sec. 1.6.1-1.6.2	Elementary matrices		Ass 2
Monday	Oct. 05	Sec. 2.1.1 & 2.1.2	Determinants		
Wednesday	Oct. 07	Sec. 2.2.1 - 2.2.2	Adjoint of a matrix		
Friday	Oct. 09	Sec. 2.2.2 - 2.2.3	Cramer's rule		Ass. 3
Monday	Oct. 12	Thanksgiving	No lectures		
Wednesday	Oct. 14	Sec. 2.3.1	Population dynamics		
Friday	Oct. 16	Sec. 2.3.2	Eigenvalues and eigenvectors		Ass. 4
Monday	Oct. 19	Sec. 2.3.3	Diagonalization		
Wednesday	Oct. 21	Sec. 2.5.1 - 2.5.3	Complex numbers		
Friday	Oct. 23	Sec. 2.5.4 - 2.5.5	Complex algebra		Ass. 5
Monday	Oct. 26	Sec. 2.5.6	Polar Form		
Wednesday	Oct. 28	Sec. 3.1	Geometric vectors	Quiz 2a	
Friday	Oct. 30	Sec. 3.2.1 -3.2.2	Dot product	Quiz 2b	

November - December

Day	Date	Section	Topics	Quizzes	Due date
Monday	Nov. 02	Sec. 3.2.3	Projections		
Wednesday	Nov. 04	Sec. 3.3.1 - 3.3.2	Lines		
Friday	Nov. 06		Review		Ass 6
Monday	Nov. 09	MIDTERM			
		Reading Days			
		Nov, 11-15	No lectures		
Monday	Nov. 16	Sec. 3.3.3	Planes		
Wednesday	Nov. 18	Sec. 3.3.4	Cross product		
Friday	Nov. 20	Sec. 3.5	Cross product		Ass 7
Monday	Nov. 23	Sec. 3.4.1	Transformations		
Wednesday	Nov. 25	Sec. 3.4.2	Transformations	Quiz 3a	
Friday	Nov. 27	Sec. 3.4.3	Effect on the square	Quiz 3b	
Monday	Nov. 30	Sec. 3.4.4 - 3.4.5	Composition		Ass 8
Wednesday	Dec. 02		Reserve		
Friday	Dec. 04		Reserve		
Monday	Dec. 07		Review		Ass 9
Final Exams, Dec. 11-21					

Detailed Lab Schedule:

Sep. 09-11 No labs.

Sep. 16-18 Detailed discussion of Gaussian algorithm, rank and homogeneous systems.

Sep. 23-25 Quiz 1: Inhomogeneous and homogeneous systems of linear equations

Sep. 30 - Oct. 2 Matrix inversion.

Oct. 7 - 9 Elementary matrices.

Oct. 14 - 16 Determinants and Adjoint

Oct. 21 -23 Eigenvalues and eigenvectors.

Oct. 28 - 30 Quiz 2 Matrices.

Nov. 4-6 Complex numbers.

Nov. 11 - 13 .Reading days

Nov. 18 - 20 Lines and planes.

Nov. 25 -27 Quiz 3 Complex eigenvalues.

Dec. 2 - 4 Transformations.