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.

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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 Adjoints

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.