Information sheet for Math 204 Winter 2011

Class meets: MTRF 9am in BH 227

Instructor: Branko Ćurgus **Office:** BH 178 **Office hours:** MTRF 10am

Course website: `http://myweb.facstaff.wwu.edu/curgus/Courses/204_201110/204.html`

Text: *Linear algebra and its applications, Third edition* by David C. Lay

Material covered: We will cover Sections 1.1-1.5, 1.7-1.9, 2.1-2.3, 2.8-2.9, 3.1-3.2, 4.1-4.5, 4.7, 5.1-5.3.

Course Objectives: The successful student will demonstrate: (1) Ability to translate between systems of linear equations, vector equations, and matrix equations. (2) Ability to perform elementary row operations to reduce the matrix to reduced echelon form. (3) Understanding of linear combination and span. (4) Ability to determine the existence and uniqueness of a solution of a system of linear equations. (5) Ability to represent the solution set of a system of linear equations in parametric vector form and understand the geometry of the solution set. (6) Understanding of linear dependence and independence of sets of vectors. (7) Understanding of linear transformations defined algebraically and geometrically, and ability to find the standard matrix of a linear transformation. (8) Ability to perform matrix operations including computation of the inverse and determinant of a matrix. (9) Knowledge of all aspects of the Invertible Matrix Theorem. (10) Understanding of the notions of a vector space and its subspaces and knowledge of their defining properties. (11) Knowledge of the definitions of a basis for and the dimension of a vector space, and ability to compute coordinates in terms of a given basis and to find the change of basis transformation between two given bases. (12) Ability to find bases for the row, column, and null spaces of a matrix, find their dimensions, and knowledge of the Rank Theorem. (13) Ability to find eigenvalues and eigenvectors of a matrix. (14) Knowledge of the Diagonalization Theorem and ability to diagonalize a matrix.

Exams: There will be three "mid-term" exams and a comprehensive final exam. The dates for the "mid-term" exams are Monday, January 24, Friday, February 11 and Friday, March 4. The final exam is scheduled for three hours on Thursday, March 17 from 8am to 11am. There will be no make-up exams. If you are unable to take an exam for a very serious reason verified in writing, please see me beforehand. This does not apply to the final exam which cannot be taken neither early nor late.

Homework: A list of suggested homework problems will be posted daily on the class website. Homework will not be collected. To succeed in class you should do each problem on your own. While working on problems you should recognize which theoretical tools are being used to solve a particular problem. As a result you will acquire general problem solving strategies, which is one of the goals of higher education. Incidentally, this will also lead to your success on exams.

Grading: Each exam and assignment will be graded by an integer between 0 and 100. Your final grade will be determined using the following formula

$$\texttt{FG = } \lceil \texttt{0.2*E1 + 0.2*E2 + 0.2*E3 + 0.4*FE} \rceil .$$

In the above formula the symbol $\lceil x \rceil$ denotes the ceiling of a real number x. Your letter grade will be assigned according to the following table:

F : 0 - 49	D : 50 - 54	C−: 55 - 59	C : 60 - 64	C+: 65 - 69
B−: 70 - 74	B : 75 - 79	B+: 80 - 84	A−: 85 - 89	A : 90 - 100

This course is a fast-paced course. A lot of new concepts will be introduced. It takes time to internalize these concepts. Therefore it is essential that you keep up with the material presented every day; do the homework problems; look for help if you encounter difficulties.

How to succeed: Doing well in mathematics depends on understanding not memorizing. Exercise critical thinking while reading the text and doing the problems since understanding cannot be achieved through superficial studying. Talking to other students is a good way to check your understanding. If you feel that you are not on your way to understanding the material do not hesitate to ask questions. Use the Math Center in BH 211A. I will be glad to talk to you during my office hours, or you can make an appointment.