Course Objectives

The mathematical goal of this course is to study linear algebra topics leading to an understanding of Jordan canonical forms. A Questions List of just over 130 questions will guide us to this goal. The secondary goals are for you to strengthen your mathematical reading and expository skills.

Required Course Materials and Prerequisites

The textbook for this course is the fourth edition of Linear Algebra, by Friedberg, Insel, and Spence, published by Prentice Hall. Math 238 and Math 245 are required prerequisites for this course.

Structure of Class

Class will be structured around student presentations of solutions to the problems on the List of Problems. There will be short daily definition/theorem/basics quizzes but no homework will be collected. I will use both random and non-random methods to determine which students will present which problems during the class hour. We will cover the problems in order and you are expected to be ready to present at the board in each class period. If all goes well, there will be no in-class tests except for the final exam. If not, there may be pop-tests for which I will give you one class period of notice.

Grades

Your grade for this course will be determined by (in order of importance with most important first):

- a 2-hour cumulative final exam based primarily on the List of Problems;
- your performance on any pop-tests;
- the quality and quantity of your in-class presentations;
- your performance on daily quizzes; and
- some small pre-defined opportunities for extra credit (see below).

Extra Credit Opportunities

You can earn a small number of extra credit points for attending talks in the colloquium series of the Department of Mathematics and Statistics (you must sign in while there). Colloquiums are usually held on Mondays, from 3:45–4:45 in Roop G10, with tea/refreshments available at 3:30. You should periodically check the schedule on the department website for dates and times.

Getting Help

Please feel free to contact me by email, during office hours, or by instant message, phone, or appointment (those options are in order as to what I most prefer). My regular office hours will be 3–5 on Mondays and Wednesdays.

Presentations

It is expected that your presentations will be clear and well thought-out, with not only mathematical correctness but also care to make sure that the rest of the class understands the solution being presented. A few presentation pointers: Don’t stand in front of what you are writing on the board. Talk to the class and not to the board or to Laura. Be as descriptive as possible; avoid words and phrases like “it” or “now do this.” Be prepared to answer questions from class members and from Laura during your presentation. And don’t be nervous. We will strive for a friendly, interactive, noncompetitive atmosphere in class.