MATH 4377
Advanced Linear Algebra
Fall 2008

Class: TuTh 1:00pm-2:30pm, 162 F

Instructor: Bernhard Bodmann, bgb@math.uh.edu

Office: PGH 636; Tu 2:30-3:20pm, We 2-3pm

Objectives: This course covers linear equations, vector spaces, linear transformations, polynomials and determinants. Throughout the course we examine these topics with a greater level of abstraction and generality than what appears in introductory courses on linear algebra. Explaining logical reasoning in a transparent manner is an important part of this course (correctness, clarity and conciseness).

Contents:

Topic	*Approximate Time*
Fields, linear equations and matrices	4 weeks
Vector spaces, linear independence, bases	3 weeks
Linear transformations, isomorphisms, ideals	2 weeks
Polynomials	2 weeks
Determinants	2 weeks

Prerequisites: MATH 2431 and a minimum of three semester hours of 3000-level mathematics courses.

Text: K. Hoffman and R. Kunze, "Linear Algebra", 2nd edition, Prentice Hall, Upper Saddle River, 1971.

Assignments: You will be asked to hand in approximately 12 assignments, which will be collected in the lectures.

Regular exams: We will have two in-class exams. Here are the rules for these exams:

1. Bring a Blue Book to each exam.
2. The exact dates for each exam will be announced at least a week in advance
3. Before the exam starts, put your name, written so we can read it, on the first page.
4. You must show your work! An answer, even if correct, all by itself with no work shown will get minimal credit.
5. There are no makeups for exams. If you miss one regular exam, the final exam grade will be counted in its place, scaled to 100 points. All other missed exams will be averaged in as a zero grade. There are no exceptions to this.