

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:	<i>Topic</i>	<i>Approximate Time</i>
	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.

Final exam: We will have a final exam in the examination period at the end of the semester. Here are the rules for these exams:

1. The final exam is comprehensive and will also cover any material covered after the third regular exam
2. The final exam will be given in our classroom during the University's scheduled day and time, which is Thursday, December 18th, 2pm-5pm.
3. You must bring a Blue Book to the final exam. No-one will be admitted to the exam without one or more Blue Books.

Final Grade: There are a total of 600 possible points: 150 points for each of the 2 in-class exams, 100 points for homework total, and 200 points for the final exam. The following table shows how a given point total is converted to a letter grade. No-one will receive a grade lower than indicated by the table. However, I reserve the right to raise a grade for substantial academic reasons.

564-600	A	480-503	B-	402-419	D+
540-563	A-	462-479	C+	384-401	D
522-539	B+	444-461	C	360-383	D-
504-521	B	420-443	C-	359 or less	F

Course Policy: Students are expected to know what constitutes academic integrity. They are expected to avoid committing academic offenses, and to take responsibility for their actions. Students who are unsure whether an action constitutes an offense, or who need help in learning how to avoid offenses (e.g., plagiarism or cheating) or who would like to learn about rules for group work should seek guidance from the course instructor, teaching assistant, academic advisor, or the Student Handbook. Students who feel that they have been wrongfully or unjustly penalized have the right to grieve.

Special Needs: Any student with a disability or chronic health problem for whom special accommodations would be helpful is encouraged to contact the instructor.