

**COURSE SYLLABUS**  
**MATH 721**  
**SPRING 2011**

Welcome to Math 721, my name is Jim Coykendall, and I will be your instructor for this course. My office is 301D Minard Hall, and my office hours this semester will be from 5:30-8:00am, 9:00am-11:00am, and 1:00-2:00pm on Mondays, Wednesdays, and Fridays. If my hours are inconvenient then email me (jim.coykendall@ndsu.edu) or give me a call (office 231-8079). Another good resource for this course is my homepage, which can be found at

<https://www.ndsu.edu/pubweb/~coykenda/>

In general, you may consider my office an open door, and I strongly recommend that you come and see me if you are having any trouble in class (or if you find that you are not being challenged enough). Come by...I enjoy seeing my students.

**COURSE DESCRIPTION:** Second semester graduate algebra. Some of the topics covered in this semester will be the theory of modules (including free, projective, and injective modules), HOM and the tensor product (with a possible brief look at module theory over a PID and canonical forms). We will also carefully explore the theory of fields and Galois theory. Time permitting, we will delve into some other topics, which may include category theory, homological and/or commutative algebra.

**GOALS:** To impart an appreciation of abstract algebra from both an applied and pure point of view as well as to help the students gain competence with this essential tool of mathematics.

**TEXTBOOK:** The primary text will be Hungerford's "Algebra". Other good references for this course are "Basic Algebra" (Volumes I and II) by Jacobson, "Topics in Algebra" by Herstein, and "Commutative Rings" by Kaplansky.

**HOMEWORK:** Homework will be collected (approximately) weekly. Your homework average will be 50% of your grade.

**EXAMS:** There will be two midterms (together comprising 25% of your grade) and a final exam worth 25% of your grade.

**GRADES:** Here is a breakdown of the quizzes/exams/final:

Homework Average...50%  
Midterm 1...12.5%  
Midterm 2...12.5%  
Final...25%

If you get the following scores (out of 100) you will receive:

90-100...A  
80-89...B  
70-79...C  
60-69...D

**SPECIAL NEEDS:** Any students with disabilities or other special needs, who need special accommodations in the course, are invited to share these concerns or requests with the instructor as soon as possible.

**ACADEMIC HONESTY:** All work in this course must be completed in a manner consistent with NDSU University Senate Policy, Section 335: Code of Academic Responsibility and Conduct (<http://www.ndsu.nodak.edu/policy/335.htm>).

I wish you the best of luck in this course, please stop by and keep me posted on how you are doing.