

COURSE SYLLABUS
MATH 726
SUMMER 2005

Welcome to Math 726, my name is Jim Coykendall, and I will be your instructor for this course. My office is 310A Minard Hall, and my office hours this semester will be from 5:30-8:50am and 9:50am-11:30am on Monday through Friday. Additionally I have office hours on Mondays and Wednesdays from 1:00pm-2:30pm. I also tend to be around in general; it is a good idea to give me a call to make sure that I am available (but you are always welcome to drop by). If my hours are inconvenient then email me (Jim.Coykendall@ndsu.edu) or give me a call (office 231-8079, home 280-7086) and we will work something out. Another good resource for this course is my homepage, which can be found at

<http://www.ndsu.nodak.edu/ndsu/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: This course will be a graduate course in homological algebra. The topics covered will include a recap of module theory, some categorical notions important to homological algebra, universal constructions, exact sequences, connecting homomorphisms, (co)chain complexes, derived functors, projective and injective resolutions, TOR and EXT. Time permitting, we will also look at some applications such as group cohomology, Galois cohomology, and applications of homological algebra to topology, algebra, and K-theory.

GOALS: To impart an appreciation and working knowledge of this central field of mathematics is the major goal of this course. This course will provide essential tools for students specializing in algebra as well as give a broad understanding to the non-specialist.

TEXTBOOK: No textbook will be required. Some good references are *An Introduction to Homological Algebra* by Rotman, *An Introduction to Homological Algebra* by Weibel, and *Homology* by MacLane, to name just a few.

HOMEWORK: Homework will be assigned and collected periodically throughout the course.

EXAMS: There will be no formal examinations.

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

Homework Average...100%

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.