

COURSE SYLLABUS
RING EXTENSIONS
MATH 793
SUMMER 2003

Welcome to Math 793, my name is Jim Coykendall, and I will be your instructor for this course. My office is 306 Minard Hall, and my office hours this summer will be from 5:30-8:30am and 9:30am-12:00pm on Monday through Friday. If my hours are inconvenient then email me (Jim.Coykendall@ndsu.nodak.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/SCHEDULE/PREREQUISITES: This is a graduate course in ring theory, the prerequisite for this course is Math 620/621 (or Math 420/421 for those with undergraduate standing) or consent of the instructor. We will cover some of the main topics in extension rings. Over the eight-week session, we will spend the first two weeks (after a brief review) covering closure notions (integral closure, complete integral closure, and other related closure notions). The next two weeks will be devoted to properties of polynomial extensions. The next two weeks will be devoted to power series extensions, and we will close over the last two weeks with more general completions and/or selected topics.

GOALS: To give students an understanding of the theory of ring extensions. This topic is important in modern commutative algebra, and one of the major goals is to impart a good working knowledge to graduate students working in or near that area. Another major goal is to impart a good understanding to the non-specialist and to help round out and solidify the graduate education of students who will not be doing research in algebra.

TEXTBOOK: There will be no required textbook for this course, but some good references are *Multiplicative Ideal Theory* by Gilmer, *Commutative Rings* by Kaplansky, and *Commutative Ring Theory* by Matsumura.

HOMEWORK/QUIZZES/TESTS: The grade will be completely determined by class assignments (homework). There will be no formal quizzes or exams given.

If you get the following percentage average homework you will receive:

90%-100%...A
80%-89%...B
70%-79%...C
60%-69%...D
0%-59%...F

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.