Math 310 (310H) Introduction to Modern Algebra
Section 001

Lecture: TuTh 12:30-1:45 Burnett Hall (Bur) 120

Instructor: Mark Brittenham
Office: Oldfather Hall (OldH) 819
Telephone: (47)2-7222
E-mail: mbritten@math.unl.edu
WWW: http://www.math.unl.edu/~mbritten/
WWW pages for this class: http://www.math.unl.edu/~mbritten/classwk/310f01/

(There you will find copies of nearly every handout from class, lists of homework problems assigned, dates for exams, etc.)

Office Hours: (tentatively) Mo 11:00-12:00, Tu 2:00 - 3:00, We 1:00-2:00, and Th 9:30 - 10:30, and whenever you can find me in my office and I'm not horrendously busy. You are also quite welcome to make an appointment for any other time; this is easiest to arrange just before or after class.

Text: *A Concrete Introduction to Higher Algebra*, by Lindsay N. Childs (2nd edition, Springer).

This course, as its name is meant to imply, is intended to introduce you to the theory, techniques, and applications of modern algebra. Our primary focus is on the theory underlying the study of 'algebraic' objects like the integers and polynomials, and how a single approach can unify the study of both kinds of objects. The selection of topics will be guided partly by the interests of the class; but we will make probably a good stab at covering most of the material from the first 16 chapters of the text.

Homework will be assigned each week, and collected one week after it is assigned. It is an essential ingredient to the course - as with almost all of mathematics, we learn best by doing (again and again and ...). Cooperation with other students on these assignments is acceptable, and even encouraged. However, you must write up solutions on your own - after all, you get to bring only one brain to exams (and it can't be someone else's). For the same reason, I also recommend that you try working each problem on your own, first. The homework grades will count 30% toward your final grade. Late homework may be marked as turned in but not graded.

Midterm exams will be given two times during the semester - the specific dates will be announced in class well in advance of each exam. Each exam will count 20% toward your grade. You can take a make-up exam only if there are compelling reasons (a doctor SAYS you were sick, jury duty, etc.) for you to miss an exam. Make-up exams tend to be harder than the originals (because make-up exams are harder to write!).

Finally, there will be a regularly scheduled **final exam** on Thursday, December 20, from 1:00pm to 3:00pm. It will cover the entire course, with a slight emphasis on material covered after the last midterm exam. It will count the remaining 30% toward your grade.

Math 310H: Students taking this class for honors credit will have a slightly increased workload. Each homework assignment will include at least one problem written for Math

310H students (Math 310 students may work them for extra credit). Exams will include some slightly different problems. Finally, Math 310H students will be assigned a **project** toward the middle of the semester, which you will work on in groups of 3 or 4. The project will count an "additional" 10% toward the final grade; that is, a "final" grade will actually be computed out of 110%, and then scaled back to 100%. Put differently, the homework, midterm, and final exam scores will really count only 10/11's of what they otherwise would. Students enrolled in Math 310 will be welcome to work the project as well, for extra credit.

Your course grade will be calculated numerically using the above scales, and will be converted to a letter grade based partly on the overall average of the class. However, a score of 90% or better will guarantee some kind of **A**, 80% or better at least some sort of **B**, 70% or better at least a flavor of **C**, and 60% or better at least a **D**.

In mathematics, new concepts continually rely upon the mastery of old ones; it is therefore essential that you thoroughly understand each new topic before moving on. Our classes are an important opportunity for you to ask questions; to make <u>sure</u> that you are understanding concepts correctly. Speak up! It's <u>your</u> education at stake. Make every effort to resist the temptation to put off work, and to fall behind. Every topic has to be gotten through, not around. And it's alot easier to read 50 pages in a week than it is in a day. Try to do some mathematics every single day. (I do.) **Class attendance** is probably your best way to insure that you will keep up with the material, and make sure that you understand all of the concepts.

Departmental Grading Appeals Policy: Students who believe their academic evaluation has been prejudiced or capricious have recourse for appeals to (in order) the instructor, the departmental chair, the departmental appeals committee, and the college appeals committee.

Some important academic dates

Aug. 27 First day of classes.
Sept. 3 Labor Day - no classes.
Sept. 7 Last day to withdraw from a course without a **'W'**.
Oct. 19 Last day to change to or from P/NP.
Oct. 22-23 Fall break - no classes.
Nov. 16 Last day to withdraw from a course.
Nov. 21 Student holiday - no classes.
Nov. 22-23 Thanksgiving Vacation - no classes.
Dec. 15 Last day of classes.