

Math 371: Section 001, Winter 2011

MWF 9:00 – 9:50, 104 TMCB

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Office Hours: MW 1:00 – 3:00, TuTh 2:00-3:00
(other times by appointment or happenstance)

Text: Abstract Algebra, an Introduction (2nd ed.)
by Thomas W. Hungerford.

Prerequisites: Math 313 (old 343, Linear Algebra) and Math 290 (old 190).

Procedure and Grading: We will cover chapters 1 to 8 and section 9.4. Homework, consisting largely of proofs, will constitute fifteen percent of your grade. There will be two mid-terms, one to be given after section 4.4, and another after section 7.5. The mid-terms will be given in the testing center from February 9 to 10, and from March 21 to 22 respectively. Each mid-term will count twenty-five percent of your grade, and the final exam will count thirty-five percent of your grade. The final exam will be available in the testing center during the final exam week. Grades will be A:95-100%, A-:90-94%, B+:87-89%, B:83-86%, B-:80-82%, etc. Under 60% is failing.

Remarks. Groups, rings and fields are the fundamental objects of modern algebra as it is currently used in the sciences, mathematics, cryptography, computer algorithms and network design, etc. The subject is called “abstract algebra” because mathematicians prefer working in the greatest possible generality – to avoid doing the same problem over and over. Thus the homework assigned will not be repetitive. Each problem may require a new idea. Doing homework with several other people is a good idea, since it tends to generate more imaginative ideas, but you must also learn to work independently. The exams must be done independently and not discussed with other students until they’ve been graded.

Math 371, unfortunately, is only half of the picture. Much of this material leads into Galois theory, which was aimed at some of the classic problems in mathematics (solving polynomial equations, etc.). Thus, you should take Math 372, as well.

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