Teacher: James Oxley, Lockett 370, 578-1577, oxley@math.lsu.edu

Office Hours: MWF 11:00 – 12:00 and by appointment.

Text: Modern Algebra and Discrete Structures, R.F. Lax

Syllabus and Course Objectives: The core of the course is contained in Chapters I–IV of the book. Some sections of these chapters will be omitted and others will be augmented. If you miss class, you should be sure to get the class notes from someone as the material covered may not be in the book or may not be treated in the same way as in the book.

The class will teach various algebraic topics including counting, proof by induction, prime numbers and divisibility, modular arithmetic, relations and mappings, equivalence relations and partitions, groups and semigroups, and cosets and Lagrange’s Theorem. One important aim of the course is to present the theory behind the RSA Public-Key Cryptosystem that is extensively used across the world. This system will be discussed toward the end of the semester. Another important aim of the course will be to teach techniques for proving certain elementary algebraic results. Students will be expected to be able to prove certain facts and tests will include problems requiring proofs.

Assessment:

Three tests @ 20% each 60%
Quizzes/homework 10%
FINAL 30%

There will be no make-ups on quizzes. Everyone drops his/her worst quiz. There will be about 5 quizzes throughout the semester.

If you must miss a test, call the teacher (578 1577) or leave a message with the Math. Department secretary (578 1665) on or before the test day. It is the student’s responsibility to contact the teacher in a timely fashion so that a make-up can be arranged.

Final Exam: This will be comprehensive, covering the whole course. It will be held

Wednesday, December 11, 12:30 – 2:30 PM.