MATH 243   Policy Statement   Spring, 2015

1. Text: Rotman, Joseph; *A First Course in Abstract Algebra with Applications, 3rd Edtn.* Selected portions of Chapter 1 - 3 will be covered, including most of the "Standard One-Semester Syllabus, Table 1". We may also cover some additional topics depending upon interest.

2. Attendence is expected at all lectures. If necessary, attendence will be encouraged using in-class quizzes, possibly without further announcement. There will be an hour exam, on a date to be determined next week.

3. Carefully written solutions to homework, especially problems featuring mathematical proofs, will be emphasized - both in lecture and in determining your grade in the course. Homework problems will appear on subsequent assignments, where you will be expected to revise and improve both your solution and its writing style. This course may be used to satisfy the Junior Writing requirement.

4. Grades are based on:

Hour Exam	100
Final	200
Homework and Quizzes	200
Total	500

5. Homework 1 will be due on Wednesday, January 28, so that you will have an early indication of the type of writing expected in this course. Read 1.1 and 1.2 ("lightly"), and start reading 1.3. Solve each of the following problems, and then hand in carefully written solutions: 1.1 - problems 1.3, 1.5 and 1.13 part i; 1.2 - 1.30 and 1.38 part i; and 1.3 - 1.49 and 1.51.

****

Chronology of largest known (Mersenne) primes:

1998 Algebra class: $2^{3021377} - 1$, decimal digits   909,526
2001 Algebra class: $2^{6972593} - 1$, decimal digits 2,098,960

       (Found June 1, 1999. Won \$50,000 prize from the Electronic
       Freedom Foundation as first 1-million digit prime.)

2003 Algebra class: $2^{13466917} - 1$, decimal digits 4,053,946

       (Found November 14, 2001; 45 cpu-days on a pc; by 20 year-old
       student.)

Challenge: \$100,000 was awarded for the first 10-million digit prime;
       $2^{43112609} - 1$, having 12,978,189 decimal digits; found August 23, 2008.
       Two smaller 10-million digit primes were found subsequently before . . .)

2015 Algebra class: $2^{57885161} - 1$, decimal digits 17,425,170; found
       February 5, 2013.