Math 406 – Syllabus – Spring 2013

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Office Hours: (Tentative) Monday 1-2 pm., Friday 3-4 pm, or by appointment.

Course: Introduction to Number Theory, MWF 12:00-12:50 pm, in MTH 0102. Section 0201.


Calculator: TI-83 (or TI-83 Plus). You will be allowed (and expected) to use this calculator in this course, on homework assignments and on in-class examinations. Certain computations can only be done easily with a calculator, so it is highly recommended that you obtain one of the above calculators as soon as possible.

This course will cover elementary number theory, with some applications. Some topics include prime numbers, Fibonacci numbers, divisibility and the Division algorithm, congruences, the Chinese remainder theorem, primality testing, factorization methods, Fermat and Mersenne primes, RSA cryptography, primitive roots, quadratic reciprocity, and non-linear Diophantine equations. This material is included in the following sections of Rosen’s book:

- Chapter 1: 1.1-1.5
- Chapter 3: 3.1, 3.3-3.7
- Chapter 4: 4.1-4.3 (4.4?)
- Chapter 5: 5.1
- Chapter 6: 6.1,6.3
- Chapter 7: 7.1-7.4
- Chapter 8: 8.1, 8.3-8.4
- Chapter 9: 9.1-9.3
- Chapter 11: 11.1-11.2

Homework: Homework problems will be assigned weekly, and will be marked by a grader. Homework problems will be posted on the course web-site. Late papers will not be accepted. However, the lowest three grades will be dropped from your homework score.
**Exams:** Tentative dates for in-class exams:
- Exam I: Wednesday, March 6.
- Exam II: Friday, April 19.
- Last day of class: Wednesday, May 8.
- Final Exam: Thursday, May 16, 8:00-10:00 am.

You will be allowed to use calculators, but no notes or other aids on your exams.

**Grading:** Your final grade will be calculated according to the following scheme:
- Exams I,II: 25% each
- Homework: 20%
- Final Exam: 30%.

**Other:** Make-ups for in-class exams will only be given for *compelling* and *documented* reasons. Please check the course web-page regularly for updates and information about the course.

**Laptop, cell phone, and texting policy:** This course has a no-open-laptop in class policy, unless you can demonstrate to me that you use it to take notes. Open computer screens tend to be a distraction for other students in the course. I ask you to turn off all mobile devices or set them on quiet mode. I cannot police all texting, but I point out that attendance is not mandatory – you should come to lecture prepared to learn and think about the material.