Syllabus–Math 573

Spring 2007

Professor: Dr. Jim Brown
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Office Hours: MWF 10:30 - 11:30 pm and by appointment
Course Website: http://www.math.ohio-state.edu/∼jimlb/Math573.html

<u>Lecture:</u> Lectures are at 11:30 am MTWRF. I do not take attendance, but it is important for your understanding that you attend class regularly.

<u>Description:</u> This course is an introduction to number theory. It is expected that you are already familiar with chapter 1 of the text. We will cover chapters 2, 4, 5, 7, 8, and 9. Some optional topics we will cover depending on time and interests of the class are Fibonacci numbers, congruent numbers and elliptic curves, continued fractions, RSA cryptography, and sums of squares. There will be weekly homework assignments that will consist of proofs and computational problems. It is expected that you work with classmates on the assignments, but each turn in your own homework. Some of the homework problems may require the use of a computer. I will support the use of SAGE (http://modular.math.washington.edu/sage), though you may use any software you are familiar with that gets the job done. Assignments will be posted at the course webpage!

<u>Text:</u> *Elementary Number Theory 6th Edition* by David M. Burton ISBN: 0073051888 (Please note you are welcome to get an older edition. The lectures will be self-contained and I will make sure it is possible for you to get the problems. It may save you about $100 to get an older edition!)

<u>Grading:</u>
- Individual Homework: 40% of final grade
- Midterm 1: 15% of final grade
- Midterm 2: 15% of final grade
- Final Paper: 10% of final grade

- Final Exam (Cumulative!!): 20% of final grade

Exam Dates: First Midterm Exam Weds. April 18, 6:00-8:00 pm
Second Midterm Exam Weds. May 16 6:00 - 8:00 pm
Final Exam Wed., June 6; 11:30 am - 1:18 pm.
Exam dates are *absolutely* firm. All students enrolled must plan to take exams at the scheduled times. Travel plans will *not* be considered an excuse to take an examination on a different date.

Final Paper: You will be required to pick a topic in number theory and write a short paper on it. The topic is up to you; it can be something we did or did not cover in class. The paper should contain historical as well as mathematical information. If you pick a topic we have discussed in class, it is of course assumed the paper will go beyond what was discussed in class. The paper is to be typed and between 10 and 15 pages.