MATH 4181: Elementary Number Theory, Fall 2011
Lectures: Lockett 137, MWF 2:40 – 3:30

Professor: Karl Mahlburg
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Website The course website will contain the most up-to-date information about reading, homework assignments, and schedules. Please check it frequently!

www.math.lsu.edu/∼mahlburg/teaching/2011-MATH4181.html

Textbook E. Flapan, T. Marks, and J. Pommersheim, *Number Theory: A Lively Introduction with Proofs, Applications, and Stories*, John Wiley and Sons, Hoboken, New Jersey, 2010.

Content We will study a variety of topics from elementary number theory, including divisibility, modular arithmetic, the Euclidean algorithm, Pell's equation, multiplicative functions, prime numbers and primality testing, the Chinese remainder theorem, quadratic reciprocity, and continued fractions. The lectures will cover approximately one chapter from the book each week.

Prerequisites You must have completed either MATH 2057: Multidimensional Calculus or MATH 2085: Linear Algebra.

Schedule Due to University holidays, this class will **not** be held on Monday, Sep. 5; Friday, Oct. 14; Wednesday, Nov. 23; or Friday, Nov. 25. If you are unable to attend the regularly held office hours, you may also schedule an appointment.

Grading The assignment of points in the course will be broken down as follows:

	Percentage
Problem Sets	30%
2 Midterm Exams	40%
Final Exam	30%

Grades will be assigned according to the usual scale:

90% – 100%: A, 80% – 90%: B, 70% – 80%: C, 60% – 70%: D, 0% – 60%: F.

These scores are guaranteed to earn the grades listed above, but final grades may also be further curved and adjusted depending on the overall performance of the class.

Exams No supplemental materials are allowed during exams, including calculators, computers, class notes, etc. If you have any conflicts with the scheduled exam times, or have any University-approved special needs, you must inform me *in advance*.

Exam 1	Monday, Oct. 3 (in-class)
Exam 2	Monday, Nov. 7 (in-class)
Final Exam	Monday, Dec. 5, 3:00 – 5:00 PM

Homework Homework assignments will be due on most **Fridays** at the beginning of class (2:40), and returned on Mondays. The assignments will be (lightly) graded for correctness and completeness, but it is important that you do your best work, as exam questions will be closely related to homework problems.

Group Work You are allowed, and even encouraged to work in small groups on homework assignments, subject to the conditions:

1. You must list the names of all of the other students with whom you discussed the problems at the top of your assignment;
2. You must write up your own solutions using your own words and arguments.

Conduct LSU students are expected to maintain high standards of academic integrity. Any incidences of suspected cheating on exams will be reported directly to the Judicial Affairs Division in the Dean of Students Office; offenses can result in loss of course credit or expulsion from the university. Instances of direct copying on homework assignments will result in loss of credit for **both** students involved.

Scientific calculators and touchscreen or stylus computers are allowed *solely* for note-taking. Cell phones, MP3 players, and all other electronic devices are not allowed in the classroom at any time.