18.781 Introduction to the Theory of Numbers
Fall 2008

This is an introductory course in Number Theory, covering Pythagorean triples, divisibility, primes, common divisors, congruences, quadratic reciprocity, arithmetic functions, Diophantine equations, Farey fractions, continued fractions, RSA cryptography, and more.

Texts: (Strongly recommended) *Introduction to the Theory of Numbers (5th ed.)*, I. Niven, H. Zuckerman, and H. Montgomery, John Wiley & Sons.

(Optional) *Introduction to the Theory of Numbers*, G.H. Hardy and E. Wright.
Website: www-math.mit.edu/∼mahlburg/teaching/08-18781.html

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

Instructor: Karl Mahlburg

Office:	Room 2-173	**E-mail:**	mahlburg@math.mit.edu
Phone:	253-2685	**Webpage:**	www-math.mit.edu/∼mahlburg

Teaching Assistant: Sawyer Tabony

Office:	Room 2-094	**E-mail:**	sawyer@math.mit.edu
Phone:	452-1199		

Schedule:

Lectures	TR 1:00	Room 2-102
Office Hours	R 3:00 (or appointment)	Room 2-173

Grading:

- Homework assignments are due on **Tuesdays** at the beginning of class (1:00). You are encouraged to work in groups, but you must write up your own solutions. Some of the assignments may require you to use computational software, such as SAGE or MAPLE.

- Exams will be in-class, and are open-note and open-book.

Grading Summary	Date	Points
10 Problem Sets	Due on most Tuesdays	35 %
Midterm 1	Approx. Oct. 9$^{\text{th}}$	20 %
Midterm 1	Approx. Nov. 13$^{\text{th}}$	20 %
Final Exam	Approx. Dec. 18$^{\text{th}}$	25 %