

18.781  
Introduction to the Theory of Numbers  
Fall 2009

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:**

- *Introduction to the Theory of Numbers (5th ed.)*, I. Niven, H. Zuckerman, and H. Montgomery, John Wiley & Sons. (Strongly recommended)
- *Introduction to the Theory of Numbers*, G.H. Hardy and E. Wright. (Optional)

**Website:** [math.mit.edu/18.781](http://math.mit.edu/18.781)

**Stellar:** [stellar.mit.edu/S/course/18/fa09/18.781](http://stellar.mit.edu/S/course/18/fa09/18.781)

**Wiki:** [wikis.mit.edu/confluence/display/18DOT781fa09/Home](http://wikis.mit.edu/confluence/display/18DOT781fa09/Home)

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

**Instructor:** Ben Webster

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**Schedule:**

<b>Lectures</b>	TR 2:30	Room 4-136
<b>Office Hours</b>	TBA (or by appointment)	Room 2-380

**Grading:**

- Homework assignments are due on **Thursdays** at the beginning of class (2:30). It can be turned in at class, under the door of my office, or submitted electronically via Stellar. You are encouraged to work in groups, but you must write up your own solutions.
- Homework will not be accepted late, barring exceptional circumstances. Email me before the homework is due to explain why you can't complete it on time.
- You will be allowed to drop your worst homework grade from consideration.
- Exams will be in-class, and are open-note and open-book.

Grading Summary	Date	Points
9 Problem Sets	Due on most Thursdays	30 %
Midterm 1	Oct. 8 <sup>th</sup>	20 %
Midterm 2	Nov. 12 <sup>th</sup>	20 %
Final Exam	Approx. Dec. 18 <sup>th</sup>	30 %