

Math 313: Topics in Number Theory
Section 201, Spring 2016

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Course
Information

Where: MATH 105

When: MWF 10-11 am

Course web page:

<http://www.math.ubc.ca/~bennett/Math313>

Textbook: Rosen Elementary Number Theory, 6th edition. bennett@math.ubc.ca

Instructor: Prof. M. Bennett

Office: Math 222A

Office hours: M 11-12, W 12-1, Th 1-2

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This course will be an assortment of (hopefully interesting!) tidbits from the world of Number Theory, ranging from 2000 year old problems to current research. Highlights will include a brief overview of Diophantine equations, a gentle introduction to the theory of elliptic curves and some applications of Number Theory to recreational mathematics. We will begin by covering Chapters 11-14 of Rosen. The course will be homework-based and the midterm and final will be heavily based on having a good understanding of the homework problems.

Use of the Web

All homework assignments and other course materials will be posted on the course web page, <http://www.math.ubc.ca/~bennett/Math313>. *No handouts will be distributed in class.*

Evaluation

There will be one midterm exam and one final exam as well as biweekly homework assignments. The course mark will be computed as follows:

- Final exam : 50 percent
- Midterm exam (in class : Friday, February 5th): 25 percent
- Homework: 25 percent

You are required to be present at the midterm. No makeup test will be given. Non-attendance at the midterm will result in a mark of zero being recorded. Unavoidable, documented medical emergencies are the only exception to this policy.

Homework will be assigned roughly every two weeks. *Late homework will not be accepted.* Students are allowed to consult one another concerning the homework problems, but your submitted solutions must be written by you in your own words. If two students submit virtually identical answers to a question, both can be found guilty of plagiarism.

Course syllabus

We will cover a variety of topics including but not limited to Diophantine equations, elliptic curves, magic squares, multiplicative functions and primality.