UNIVERSITY OF TORONTO
DEPARTMENT OF MATHEMATICS
MAT315H1S
Introduction to Number Theory
Winter Semester 2015

Instructors: Dr. Henry Kim, BA 6250, 416-978-4443
Lectures: MWF9
Textbook: A Friendly Introduction to Number Theory, 4th ed.
                   by Joseph H. Silverman
                   We will cover mainly chapters 1-37.
E-mail: henrykim@math.toronto.edu
Office Hours: To be announced
Catalog Data: Elementary topics in number theory: arithmetic functions;
                   polynomials over the residue classes modulo m, characters
                   on the residue classes modulo m; quadratic reciprocity law,
                   representation of numbers as sums of squares.
Prerequisites: (235Y/237Y, 223H/240H) This course should be accessible
                   to anyone who has high school mathematics background
Homework: There will be homework.
Tests: There will be two term tests given in class as well as the
                   final exam during the final exam period. There will be NO
                   make-up tests. If you miss the tests for any reason, we will
                   transfer the weight to the final exam: If you miss one test,
                   the final exam will be worth 64%, and the highest course
                   grade will be 100. If you miss two tests, then the final exam
                   will be worth 75%, and the highest course grade will be 93.

Grading: Grading will be based on term tests and the final exam, and
                   will be weighed as follows.

Two term tests	18% x 2=36%
Homework	18%
Final Exam	46%

Schedule and Suggested Problems

This schedule is subject to change.

Week 1 beginning January 5
Chapter 1: 1.3
Chapter 3: 3.1, 3.2, 3.3, 3.4
Chapter 5: 5.1, 5.3, 5.4

Week 2 beginning January 12
Chapter 6: 6.1, 6.2, 6.4, 6.5
Chapter 7: 7.3, 7.4, 7.5
Chapter 8: 8.2, 8.3, 8.5
Chapter 9: 9.1, 9.2

Week 3 beginning January 19
Chapter 10: 10.1, 10.2, 10.3
Chapter 11: 11.2, 11.3, 11.5, 11.6, 11.11, 11.13
Chapter 12: 12.2, 12.5
Chapter 14: 14.1, 14.2

Week 4 beginning January 26
Chapter 15: 15.1, 15.3, 15.5
Chapter 16: 16.1, 16.3
Chapter 17: 17.1, 17.2

Week 5 beginning February 2 Review and Midterm I

Chapter 20: 20.3

Week 6 beginning February 9
Chapter 21: 21.1, 21.3, 21.5
Chapter 22: 22.1, 22.2, 22.3, 22.7, 22.8, 22.10
Chapter 23: 23.2, 23.4

Week 7 beginning February 16. Reading week

Week 8 beginning February 23
Chapter 24: 24.2, 24.4
Chapter 25: 25.1, 25.2, 25.3

Chapter 26: 26.1, 26.3

Week 9 beginning March 2
Chapter 27: 27.1, 27.2, 27.3, 27.4
Chapter 28: 28.1, 28.2, 28.8, 28.9, 28.10
Chapter 29: 29.1, 29.2, 29.4

Week 10 beginning March 9
Chapter 31: 31.1, 31.4
Chapter 32: 32.4
Chapter 33: 33.4
Chapter 34: 34.2

Week 11 beginning March 16 Review and Midterm II

Chapter 35: 35.9

Week 12 beginning March 23
Chapter 36: 36.6
Chapter 37: 37.10

Week 13 beginning March 30 Last week of classes, Review