

MATH 5333
Topics in Number Theory
Fall 2007

Instructor: Dr. Andy Magid

Text: *Number Theory: Algebraic Numbers and Functions*, by Helmut Koch

The course will be an introduction to the algebraic theory of numbers. We will start with the number theory of the rational integers (Diophantine equations, Quadratic residues, the Prime Number Theorem) then move on to the geometry of numbers in quadratic fields and algebraic number fields (binary quadratic forms, finiteness of class number). Next, we will consider algebraic function fields (divisors, differentials, genus). Finally, we will consider ideals in rings of algebraic integers.