CUNY Ph.D. Program in Mathematics - - Fall 2015

MATH 87000: Topics in Algebraic Number Theory [CRN TBA]

Thursdays, 2:00pm - 4:00pm, Rm. TBA

Prof. Victor Kolyvagin

3 cr.

Course Abstract

The course will be concentrated around the study of global and local cyclotomic fields.

Main topics will include: analytical functions in local fields; Fermat's equations over cyclotomic fields; the second case of Fermat' Theorem for regular exponents via the Kummer's approach; divisor class groups of cyclotomic fields and Galois eigenspaces in them; Gauss sums and Stickelberger Theorem.

It is supposed that students have had a one-year algebra course and are familiar with the divisor theory in number fields.

The book to be used: Number Theory by Borevich and Shafarevich.