



The Graduate Center of CUNY
Ph.D. Program in Mathematics
Course Description
Spring 2022

Course Title: Topics in Algebraic Number Theory

Course #: 87000

Day & Time: Thursdays 2:00 PM-4:00 PM

Instructor Name: Victor Kolyvagin

Contact Information: VKolyvagin@gc.cuny.edu

Prerequisites:

Office Hours: Th. 1:00 PM-2:00 PM (In GC during in person meetings class days).

Mode: In Person Hybrid

Course Description (If Hybrid, include details on when in person vs. remote)

The course will be concentrated around study of arithmetic of global and local cyclotomic fields. Main topics will include: ideal class group, analytical class number formula, Kummer method for study Fermat,s equations over cyclotomic fields and its futher developments, ABC conjecture for number fields and its applications for study Fermat,s equaions over cyclotomic fields. It is supposed that students have 1 year algebra course and are familiar with the theory of divisors in number fields. The book to be used: “ Number Theory” by Borevich and Shafarevich. In person class meetings days: Thursdays 2:00 PM-4:00 PM: February 03, February 24, March 17, April 07, April 28, May 12.