Quarter: Fall 2008
Course number: 207A
Instructor: Khan, Rizwanur

Title: Topics in analytic number theory

The aim of this course is to give a taste of some problems and methods in analytic number theory. We will present some old results and some recent ones, on topics such as: gaps between primes, sieve theory and the Bombieri-Vinogradov Theorem, zeros of L-functions, random matrix theory, and more as time permits.

A good knowledge of complex analysis is required. Familiarity with the prime number theorem will be assumed (although this can be reviewed if need be).

A good reference is the book “Analytic Number Theory” by Iwaniec and Kowalski.