An introduction to *L*-functions

Undergraduate Math Club CORNELL UNIVERSITY



The Riemann zeta function.

SPEAKER

Alex Frederick

ABSTRACT

This talk will be an ambitious introduction to a central and exciting theme of number theory: L-functions. Lfunctions are complex-analytic functions associated to important number-theoretic objects. I will begin with the Riemann zeta function, then give a quick introduction to algebraic number theory. A veritable frenzy of examples will follow: I will define Dirichlet characters, Galois representations, elliptic curves, and modular forms, and their associated L-functions. I will sketch the important ways L-functions mediate between the analytic and arithmetic worlds. Time permitting, I may introduce the Hasse-Weil Zeta function of a variety over a finite field, or the p-adic analytic Kubota-Leopoldt L-functions.

MAY 6 · 4:30

Malott 5th floor lounge · refreshments served