Discrete Mathematics Seminar

Time: Friday, 27 January 2015, 2:00-3:00 PM
Room: 237 Derrick Hall
Title: An Introduction to Cassels Search Bound Problems
Speaker: Dr. Nick Rauh, Mathematics Department

Abstract:

Diophantine equations have been some of the central objects of study in number theory since antiquity. While Matiyasevich proved that there is no algorithm for solving one, in general, the field is very much alive and thrives on honing its techniques and finding tractable families of polynomials. One modern approach to solving Diophantine equations (typically attributed to Cassels) is known as the Search Bound Problem, and seeks to determine whether a given equation has a "small" solution. Assuming an audience of nonexperts, I will discuss the basic problem, some of the tools involved in investigating it, some of the celebrated results, and some of my results. (You can decide whether or not to celebrate my results.)