

THE MATHEMATICS DEPARTMENT PRESENTS

A MATHEMATICS COLLOQUIUM

THURSDAY, May 28, 2009

BOND HALL 217

4:00 pm

Title: **Hindman's Theorem**

Speaker: **Lucas Chaffee**, Western Washington University

Abstract: Given a finite coloring of the natural numbers, it is sometimes easy to find an infinite monochromatic set, S , such that all finite sums of the elements of S are monochromatic as well. For instance, if we color the odd numbers red and the even numbers blue, any infinite blue set will work. In general however, it is not clear whether such a set will exist. Hindman's Theorem is an important Ramsey type result which states that given an arbitrary finite coloring of the natural numbers, such an infinite set will always exist. In this talk I will present a proof of this theorem. This talk will assume familiarity with basic set theory and binary representations of natural numbers.

Refreshments will precede the talk at 3:30pm in Bond Hall 300
courtesy of Dr. Amites Sarkar