Discrete Mathematics Seminar

Time: Friday, 8 November 2013, 1:30-2:15 PM
Room: 238 Derrick Hall
Title: How Discrete Mathematics Can be Used to Detect the Cohen-Macaulay
           Property
Speaker: Dr. Susan Morey, Mathematics Department

Abstract:

Detecting the Cohen-Macaulay property has been called the "gold standard" of research in Commutative Algebra. In this talk, we will focus on finding classes of square-free monomial ideals that are Cohen-Macaulay. There are several ways to impose a combinatorial structure on square-free monomial ideals, particularly through graphs and hypergraphs. We will use these discrete structures to answer algebraic questions, passing through an interesting result about the Konig property along the way. Parts of the talk will be based on joint work with undergraduate students. Since the talk crosses the boundary between two areas of mathematics, definitions from both areas will be liberally provided throughout the talk.