Discrete Mathematics Seminar

Time: Friday, 21 November 2014, 2:00-3:00 PM
Room: 237 Derrick Hall
Title: Ordinal-Valued Length Functions
Speaker: Dr. Jason Juett, Mathematics Department

Abstract:

Classically, the (factorization) length of a nonzero nonunit element of an integral domain is defined to be the supremum of the lengths of its factorizations into nonunits; units are considered to have length zero. For domains satisfying the ascending chain condition on principal ideals (ACCP), we can give a refined notion of length by recursively defining the length of an element to be the least ordinal number strictly greater than the lengths of its proper divisors. In this talk, I will discuss some properties and examples of this newly defined length function and some of its more interesting consequences and applications to factorization theory.