

Title: Clean rings

Abstract: A clean ring is a ring in which every element is the sum of an idempotent and a unit. A set of idempotents E that contains enough elements so that every element in a ring can be written as $e + u$, for some e in E and a unit u , is said to be a clean set of idempotents. The cardinality of a minimal clean set of idempotents seems to be an interesting object to look at, and thus we will look at how to find this number for some "typical" rings.

Sooner or later we will stumble into rings of matrices and interesting questions will arise.

This (ongoing) research started when Oscar visited The University of Iowa last Summer. The problem is an offspring of research REU students did the previous Summer under the supervision of Vic Camillo.

Students are encouraged to attend this talk, as only the basics of ring theory and linear algebra will be needed to follow it. Several examples will be given.