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**Hans Erik Nordstrom\*** (nordstro@up.edu), Department of Mathematics, University of Portland, 5000 N Willamette BLVD, Portland, OR 97203. *Leavitt path algebras over arbitrary unital rings*. Preliminary report.

Leavitt path algebras over fields provide purely algebraic analogs to graph  $C^*$  algebras. Significant theorems in the study of graph  $C^*$  algebras have parallels in the context of Leavitt path algebras. For example, the conditions on a graph for determining the simplicity of a graph  $C^*$  algebra are identical to those for a Leavitt path algebra over a field. We discuss some straightforward results on the simplicity of Leavitt path algebras over arbitrary unital rings and their tensors. We consider results regarding the prime spectrum of Leavitt path algebras over fields, and the prospect of extending those results, as well as other methods for computing the propagation of prime ideals, using the data from the base ring,  $R$ . (Received July 31, 2011)