Discrete Mathematics Seminar

Time: Friday, 22 October 2010, 12:30-1:30 PM
Room: 238 Derrick Hall
Title: Vertex-Coloring Total Weightings of Graphs
Speaker: Dr. Jonathan Hulgan, Mathematics Department

Abstract:

An assignment of real weights to the edges and vertices of a graph is a vertex-coloring total weighting if the total weight sums at the vertices are distinct for each pair adjacent vertices. Of interest here is the existence of vertex-coloring total weightings with weight set of cardinality two, a problem motivated by the conjecture that every graph has such a weighting using the weights 1 and 2. We prove the existence of such weightings for certain families of graphs using any two distinct non-negative real weights.

Bio:

I received my Ph.D. from The University of Memphis in May, 2010. My dissertation examined three different coloring problems: adjacent vertex distinguishing total colorings, vertex coloring total weightings, and edge list multi-colorings with measurable sets. In addition to graph theory, I am interested in combinatorial number theory, ergodic Ramsey theory, and applications of discrete mathematics in the biological sciences. I live in San Marcos with my wife, Megan, and our 8-month-old son, Jon.