GRADUATE SEMINAR

Brendan Andrusiak

On graphs with equal Zero Forcing and Path Covering Numbers

MSC Student supervised by Shaun Fallat

April 5, 2023 2:30 pm

University of Regina Centre for Kin, Health and Sport 185. Zoom Meeting ID: 941 2536 7372

Abstract:

Building from my first presentation, we present some recent work on a class of graphs denoted by ZP. A graph G is in ZP if the zero forcing and path covering number of H are equal for every induced subgraph H of G. We pay particular attention to planar and outerplanar graphs and provide a complete characterization for the case when the path cover number of G is two. This result relies on a careful analysis of so-called 'terminal' vertices with respect to both the zero forcing process and optimal path coverings. We conclude with a new result showing that the class ZP is closed under the graph operation of vertex sums, which can be used to re-prove a known result stating that cactii graphs belong to ZP.



