

Discrete Mathematics Seminar

Illinois State University

2:00–2:50 pm, October 22

Speaker: Ron Gould, Emory University

The Changing Face of Graph Saturation

Given a fixed graph H , a graph G is H -saturated if G does not contain H as a subgraph, but the addition of any edge from the complement of G produces at least one copy of H in G . The maximum number of edges in an H saturated graph of order n is the well-known extremal number for H (sometimes called the Turan number). The minimum number of edges in an H -saturated graph of order n is called the saturation number of H .

Recently, many questions about graph saturation have been investigated. These include a variety of variations like changing the base graph, considering edge colored graphs, finding all possible sizes of H -saturated graphs and more.

We will survey these ideas and present fundamental results and open problems on these variations.

