1047-05-101   **Ronald J. Gould*** (`rg@mathcs.emory.edu`), Department of Mathematics and Computer Scienc, Emory University, Atlanta, GA 30322. *On Saturation Numbers.*

A graph G on n vertices is said to be H-saturated if G does not contain H as a subgraph, but the addition of any edge to G produces H as a subgraph.

One of the classic questions in graph theory is what is the maximum number of edges in a graph that fails to contain H as a subgraph, that is, what is the maximum size of an H-saturated graph? This number is denoted $ex(n, H)$. This question has seen considerable work and produced a deep and rich theory.

The other extreme has been far less studied. That is, what is the minimum number of edges in an H-saturated graph? This is called the saturation number of H and is denoted by $sat(n, H)$.

In this talk we survey some of the basic facts about saturated graphs and recent results on the saturation number for a variety of classes of graphs, including the union of cliques, books, cycles, and trees. (Received January 21, 2009)