Title: Introduction to Morse Theory

Abstract: The main goal of this talk is to prove a topological theorem relating the homotopy class of a manifold with the critical points of a Morse function (a smooth function where all of its critical points are non-degenerate). Keeping this theorem in mind, we will be going over the necessary definitions of manifolds and of homotopy classes (along with some examples and interesting theorems in geometry) for the first half of the talk and will designate the last half of the talk to proving the theorem.