Starting in the early 20th Century, Marston Morse developed what became known as Morse Theory for manifolds, a framework within which we see how any closed, smooth manifold of any dimension can be constructed by gluing together handles. We’ll start with a brief introduction to manifolds and Morse Theory in dimensions one and two, noting the classification results for results that arise in the process. Then, working upward in dimension and forward in time to the late 20th Century, we’ll discuss the relationship between Morse Theory and Robion Kirby’s so-called Kirby Calculus for representing and manipulating 3- and 4-dimensional manifolds. We’ll close with a quick look at the initial stages of the speaker’s own Kirby Calculator software project, which will provide computational tools for working with the Kirby Calculus.

Tuesday, February 23, 2010
3:15 p.m.
Warner 208

Refreshments at 3:00 p.m.

All are Welcome!