



Department of Mathematics

AMS Graduate Student Seminar

Joe Lopez

A Survey of Morse Homology

Thursday, March, 31st 2022

11:00 a.m. in Hume 321



Abstract: One method to conduct data analysis is inspired by Morse Homology. In this talk, we will survey topics in algebraic topology we need to proceed. Afterwards, we will discuss Morse theory, and then dive in Morse Homology. We will verify the Morse inequality relating critical points of a Morse function to the Betti number of a manifold. Then we will examine, depending on time, other topics in Morse Homology.