

Paul Wilson-Harmon: Mathematical Sciences
Mentor: Mark Greenwood -- Mathematical Sciences
Demystifying the Carnegie Classifications

The Carnegie Classifications of research activity are used to compare like institutions in higher education. In 2015, the newest update of the Carnegie Classifications was released, with Montana State University moving from the top-tier category of “Highest Research Activity” to second highest tier, “Higher Research Activity.” The classification system is based on two separate indices calculated using principal components analysis. The first index is based on a set of aggregate covariates and the other on a set of per-capita metrics. This analysis re-creates the calculation of the classifications and examines how sensitive they are to changes in the underlying characteristics of a given institution. Moreover, I demonstrate an app that will track how Montana State would compare to other institutions with increases in each variable used to calculate the classifications. This static analysis informs how difficult it would be to move from the R-2 status to R-1 in the future, but more importantly, it further illuminates the reasons for why Montana State was placed in the “Higher Research Activity” classification in 2015. This project was completed in cooperation with the Department of Mathematical Sciences and the Office of Planning and Analysis.