

1145-B5-2312 **Luke Wiley*** (lw250971@muhlenberg.edu), 1854 Fox Run Terrace, Warrington, PA 18976, and
James Russell. *A Statistical Analysis of Muhlenberg College's Fourth Down Strategy.*

This project aims to mathematically suggest whether a coach should go for it on 4th down by using generalized linear regression models to help probabilistically make the decision. We use the recent offensive data from Muhlenberg's football team. Most of the data is from the 2017 season; however, we also use previous years to supplement the kicking data. The data consists of decisions made on 3rd and 4th down play. Since 4th down usually means suggests a change of possession, 3rd down becomes critical of this decision. Benefits to Division III football include providing an edge over their competitors. The impact of 4th down decisions were recently on display in the past Super Bowl LII where the Eagles elected to employ a more aggressive, nuanced 4th down strategy while the Patriots followed a more conservative, traditional strategy. (Received September 25, 2018)