1125-I5-2378 **Mark C Ginn*** (ginnmc@appstate.edu), Department of Mathematical Sciences, Boone, NC 28608, and **Madison Combs**, **Amanda Lake Heath** and **Zachary Snipes**. *Expected Points in Appalachian State Football.*

The expected points function $E(p, dd)$ gives the expected value of the next points scored in a football game given the current field position $p$ and the current down and distance $dd$. This function can be used to analyze many different situations in a game such as when to punt or go for it on fourth down, whether to try on long pass on third and long r run a more conservative play and many other situations. While almost anyone would agree that the values of this function depend greatly on the team being analyzed it is very difficult to evaluate this function for a particular team because of the relatively small amount of data available ($400 - 500$ offensive plays in a season) for the large number of different input states (100 different field positions and $> 40$ down and distance scenarios).

We compute values of this function for the Appalachian State football team for the 2015 season. We use various strategies to account for the lack of data and compare our results to other functions in the literature. (Received September 20, 2016)