William Adamczak and Joseph McCollum* (jmccollum@siena.edu), 515 Loudon Road, Loudonville, NY 12211. Using R Programming to Enhance Mathematical and Statistical Learning. Preliminary report.

At Siena College we offer a variety of statistic classes ranging from introductory statistics to time series analysis. These courses are either offered in the Mathematics department or the Quantitative Business Analysis department. We have incorporated the R programming language across the curriculum in both departments. In the process of bringing the R language into these classes we have discovered a variety of ways that this can be done while reinforcing statistical and mathematical concepts. We have augmented our typical lectures with examples where students use basic R programming to better understand key concepts of statistics. We would like to share some of our success stories such as understanding the standard deviation through coding. Plus, we will discuss how R programming allows a student a framework for organizing student's thoughts about statistical tests. Finally, we would highlight that one should be careful of the "black box" called R and to always check your answer to ensure accuracy. We believe what we have learned will be of value to individuals teaching statistics courses whether they have a programming component or not and look forward to sharing these experiences. (Received September 04, 2018)