To: Candice Bauer

../../../../initials.pngFrom: Willis Allstead (9-3)

Date: October 26, 2017

Subject: SLO #1 – Applying knowledge of Math, Science, and Engineering

Willis has embraced math, science, and engineering as not only a future career orientation, but also a way of thinking and making decisions. These fields rely strongly on evidence-based decision making and experiment design. Willis emphasized his studies in the engineering fields, but as these three fields share many of the same basic ideas, he has gained experience interacting in all of them to various degrees. Regarding engineering, Willis has made an effort to continuously learn more and apply what he learns along the way. Recently, Willis applied his engineering knowledge by designing and developing a website to host podcasts. Specifically, he implemented a user interface, tested the interface using automated processes, found bugs or issues in his design, implemented changes to fix those issues, and repeated that process until he had an initial product he could offer publicly.

Willis used math in the creation of his iOS games. In the creation of games a strong knowledge of math is required for everything from the balanced design of game interfaces to calculating the rotational velocity of a ball in the air. Understanding the theory behind certain algorithms and data structures requires knowledge of nested summations, proofs to show the running time of an algorithm in the worst case, and more.

A strong background in science has allowed Willis to develop his knowledge further in math and engineering. He learned science from a combination of his K-12 education and his further studies in the area after high school. This knowledge allowed Willis to know the importance of documentation, experimenting, and general development processes. He knows that in order to develop a sound product, he must follow scientific philosophies and methods. The repeated application of concepts like documentation and experimenting are imperative to Willis’ work in programming.