Sam Kane

Goal 2.2 Reflection

Analyze Data Quantitatively and Develop Testable Models

There are two different types of data and variables in the world of science, qualitative and quantitative. While both are important, most of the time the methods or results sections of a research experiment tend to be thought of as mostly quantitative. Throughout my time as an undergraduate, I have learned the importance of being able to effectively analyze data quantitatively and develop testable models from that analysis.

Bio 250 – In Biology 250, we had a semester long research project where my group tested the number of bacteria in a creek versus a retention pond. In order to conduct this experiment, my partner and I had to base our data nearly almost entirely from quantitative data. We used the data we analyzed quantitatively to develop testable models and go out and genuinely test both sets of water for their bacteria content.

Bio 473 – Throughout Biology 473, our semester long research project looked at the C-start technique in various age groups of Zebrafish, ranging from 1 years old to 3 years old. Within these groups, we already have quantitative data focusing on the age of the fish. We also used quantitative data analysis to run ANOVAs on the average velocity and distance in relation to the size of the zebrafish tested. All of this quantitative data ultimately gave us the details we needed to develop testable models from the analysis performed.