

## Goal 1.5

### Reflection

Some say that chemistry is the reason we know about physics; others say physics is the reason we know about chemistry. The truth is they both go hand and hand and are both equally important. That being said, as a biology major not many chemistry and physics classes are taken by students. Of course, it all depends on your minors and double majors, but overall a normal biology degree involves chemistry 111 & 112, organic chemistry, and physics 120 & 121. That being said, chemistry and physics are involved in many biology courses here at Longwood. The goal is to be able to integrate physics and chemistry concepts into relevant biological contexts.

In my sophomore year at Longwood, I was able to study microbial diversity in the Appomattox River and Buffalo Creek located in Farmville, VA. I was studying the pollution runoff from the surrounding farms. I found that phosphorous and nitrogen are the most common pollutants affecting creeks and rivers. I was able to tie in chemical concepts relevant to biological contexts by relating phosphorous and nitrogen to microbial diversity in the creek and river. After applying physics and chemistry concepts I was able to integrate these concepts into relevant biology. This pollution greatly affects aquatic life and being able to relate these findings to biological concepts is important for further research.

Chemistry is an extremely important subject which is why so many biology majors minor in it. The last chemistry class I took was Organic chemistry which involved a semester-long research project. By researching this subject I was able to understand and apply chemistry concepts into biological contexts. I was able to apply my knowledge of parabens to biological

concepts of cancer. Through this, I was able to integrate chemistry into relevant biological concepts.

My growth as a biology major has come a long way and I am very proud of my success. My growth as a chemist has also developed tremendously although I wish I took more chemistry courses like biochemistry. Through these courses, I was able to successfully integrate physics and chemistry concepts into relevant biological contexts. These skills are important because being able to integrate different concepts into a simpler context can be difficult. By applying these skills to relevant biological contexts in my courses, allowed me to successfully be a biology student. Overall I am confident that I can integrate physics and chemistry concepts into relevant biological contexts.