

The academic year 2013–14 is the third year that seniors at St. Anne’s–Belfield School have had the opportunity to select a senior-only seminar that incorporates both statistics and environmental studies. This two credit course is co-taught by the AP Statistics and AP Environmental Science/AP Biology teachers. There are no prerequisite requirements. Over the past three years, the goals of the seminar have not changed, but the course design and content have evolved.

The question posed to the class was: “What is the Health of the Rivanna Watershed?” Prior to addressing this question, the students acquired the skills necessary to use the appropriate monitoring equipment. They developed a protocol for data collection, which was tested in a West Virginia watershed. A variety of statistical tests were learned and practiced, and the impact of various types of land use was researched. Finally the concept of modeling was introduced, and the group determined a model for selecting sites in the Rivanna watershed for monitoring. As the course was primarily student-driven, finalizing a protocol took constant refinement to produce an accurate conclusion. As a result, the class came to a conclusion over the course of six months.

At the conclusion of the project, it was clear that these students knew the content of the course and understood the difficulties inherent in data collection, data analysis, and the application of data to a broad question. As a result, they have become more adept at adopting and testing a protocol, dealing with obstacles and setbacks, questioning the validity of their findings, and collaborating to come up with a final answer.