CORE Area D Assessment. For three years, Biology has been collecting data for the assessment of Area D of the CORE. Our introductory classes that fulfill this CORE area include: BIOL 1107/1108 (non-majors biology I/II), BIOL 2107/2108 (major’s biology I/II) and BIOL 1500 (Applied Botany). Instructors of these course in an assessment instrument into the course’s last exam. The instrument consist of questions that allow us to evaluate the student’s ability to (1) interpret graphical data, (2) evaluate relationships from the graph and (3) predict relationships from the graph. Figure 1 summarizes the results from over the last three years. The drop in scores on the “prediction” element was surprising and may be an artifact of few student being assessed. We will continue to track this to see if it is an anomaly or if the issue needs to be addressed.

![Graph](image)

**Figure 1. Area D - Core Assessment by year.** This shows the percentage of students in each class that responded correctly to the questions evaluating the interpretation, relationships, and predictions of a graphical model.
Seniors are evaluated using the ETS Major Field Test in Biology. The Total Score is used to compare students from year to year and to national scores (Figure 2). In general, our seniors performed better than 50th percentile of the all the students taking the test and while we would like to see it improve, we are satisfied with that score. We frequently see scores from ETS that fail to correlate with student GPAs. One issue may be the lack of investment and return on the student’s part. While the exam is given as part of our Senior Seminar, the score has no impact on success or failure of the course. We have discussed some options to minimize this effect and are still look at this problem.

Figure 2. ETS Major Field Test in Biology results for GSW Biology Seniors years 1998 and 2002-2013. The 1999-2001 data was not available.

The ETS is also broken down into the subject-based subsets including: 1) Cell Biology, 2) Molecular Biology and Genetics, 3) Organismal Biology and 4) Population Biology, Evolution and Ecology. The student sub-scores allow us to
evaluate areas with in the program that are weak. For example, “Population, Evolution and Ecology” continued for several years to be lower than the other sections. We felt that the evolution component was one of the weaker areas. We don’t have a specific course in Evolution and while we cover it is nearly all course since it is a foundational topic, we were concerned that the students were not making critical connections. We modified our major’s introductory course to add more emphasis on evolution and over the past four years we have seen an increase in that subset that has brought it in line with the other sub-sections Figure 3.

Figure 3. Results of the performance of Senior biology students on the ETS biology exit exam by subsections. Scores are sub-scores in each major area and are not percentiles.

In addition to the ETS, Program SLO are evaluated using our capstone Biology Seminar II (BIOL 4010B). The assessment tool addresses: 1) Did the student demonstrate his/her ability to find, read and comprehend scientific literature? 2) Did the student demonstrate the ability to communicate scientific knowledge in a professional manner? 3) Did the student demonstrate an understanding of experimental design and research methodology? 4) Was the student able to make
the connection between their work and everyday life? The cumulative results for the last 6 terms are shown in Figure 4.

![Figure 4. Evaluation of capstone evaluated Student Learning Outcomes 2012-2013.](chart.png)