

University of Arkansas

Department of Biological Sciences

Program Assessment (BIOL BA, BIOL BS)

Report: Academic Year 2014-2015

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General Background:

The Department of Biological Sciences has developed an assessment plan with a two-phased evaluation. Recognizing that combined BIOL-BA and BIOL-BS programs constitute about 1200 majors and approximately 200 graduating seniors per academic year, sub-sampling our students seems the most effective way to assess our program success. Phase I of our assessment utilizes a sub-sample of approximately 25% (50/200) of our graduating seniors who are pre-medical students that take the MCAT. National MCAT scores are published, and thus provide a benchmark to judge the efficacy of our program. Phase II of our assessment is still under development, and will involve comparisons of pre- and post- test scores for a standardized test administered at the start of each student's program, and again during the senior year. The paragraphs below provide initial data for Phase I, and a progress report on Phase II.

Phase I - Subsampling with the MCAT:

Biological Sciences graduates approximately 200 students in the BA and BS programs per year. A large number (ca. 50) of these students are declared premedical students, and all take the MCAT as an entry-level test for Medical School aptitude. The department has access to summary statistics for our students that take the MCAT. Moreover, statistical summaries that describe MCAT test results nationally are published. In Figure 1, we provide MCAT performance data from 2008 through 2015 (the most recent available results). We note that BISC majors (BS and BA combined) perform similarly to the national average, especially over the last two years. We take this as a good sign that our training programs are at least comparable to average results achieved

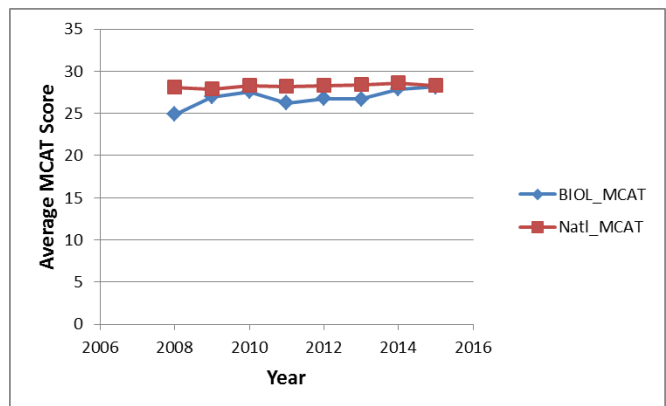


Figure 1 average MCAT scores for UA-Biology students and premedical students nationally

on a national scale. We are encouraged by these results, especially evidence of recent improvement. We note that in this current form, the data do not differentiate between Biology BA and BS students. We did request data for both programs, but received combined data. We hope to receive data for both programs in the future. However, for the time being, since the BA and BS degrees share many courses and the biology core, we take the current combined program data to represent performance of both degree programs.

The MCAT also offers a Biology sub-section. Figure 2 provides data for the biology sub-test from 2008 through 2015. Again, our students performed similarly to the national average, with noted improvement in 2014 and 2015. The results for the Biology sub-test parallel those of the overall MCAT, and suggest that our students compete well. We are encouraged by the upward trend in performance exhibited over the final two years, and look forward to continuing that trend. Figures 1 and 2 combined present Phase I data that suggest our program is effective at training students in the broadly-defined field of Biological Sciences.

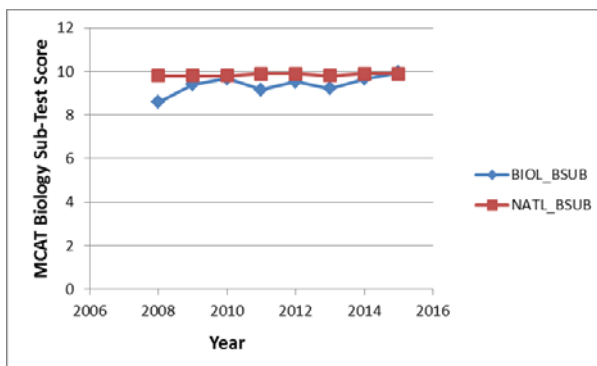


Figure 2 MCAT Biology sub-test data for UA biology BS and BA students, and national averages

Phase II: Pre- and Post- testing.

Phase II of BISC's program assessment plan requires administration of pre- and post- tests over the course of the student's program. We have delayed application of this approach because of a major shift in how we deliver our introductory course - starting Fall 2016, we will begin a new "Biology for Majors" course, which will afford us greater access to our majors from the first semester. During the first week of class, students in the course will take an online test to assess their base knowledge. The online test will also serve as the program pre-test, which can be further sorted by the students program (BA, BS). During their senior year, and concurrent with completion of the senior writing requirement, the students will be required to take a capstone exam which will be developed identically to the pre-test. Differences in performance on these tests will be the basis for program evaluation.

Our first pre-test will be administered in fall of 2016, and our first capstone exams will be administered during AY 16-17. For the first four years, independent samples of pre- and post- tests will be compared. After four years, we should be able to develop records of individual performance, thereby allowing us to track cohorts through the program for comparison.

Summary:

The nascent BISC assessment plan has provided positive data from Phase I (MCAT), suggesting that our programs are effectively serving our students. We are planning for implementation of Phase II in fall of 2016. Both phases will be continued from Fall 2016, allowing full cohorts to be tracked by 2020 (for those students who complete degrees in four years).