



## 2015-16 End-of-Year Report Academic Department Success Plan

**Department:** Biology

**Department Chair:** Diana Hews, Interim

**Person Primarily Responsible for Preparing this Report:** Diana Hews

Revised FINAL REPORT

**Specific accomplishments/achievements this past year (briefly explain using bullet points, noting any changed/adapted):**

- a) **Ran our first “STEM Summer Starter”** (July 2016) Low math placement exam (MAPLE) scores bar first-semester freshmen from entering CHEM 105, a critical course for the biology major. With the Math & Writing Center we designed and implemented this online 4-week tutor-assisted “STEM Summer Starter” in July, for entering declared science majors with low MAPLE scores. Course included activities focusing on skills for successful college students and for Bio 101L students. Students completing the program could retake the MAPLE exam and the \$50 fee was returned as a book scholarship.  
RESULTS from PILOT RUN:
  - Eleven students enrolled, 5 students completed the program and retook the MAPLE exam.
  - Average MAPLE scores were 8.6 (range 5-13) prior to the program.
  - All five students increased an average of 6 points (range 12-17); ending average score was 14.6.
- b) **Began Developing a Post-Admission Bridge Program** (Project Success). Hews, UC Dean Maule, and Science Librarian Shelly Arvin have started to discussions for the Univ101-style course that we will offer for our BIO project success students FA17.
- c) **CAREER initiatives**
  - (i) **Created materials for use in various venues including:**
    - Career Highlights Poster and fliers on a large, dedicated 4'x 6' bulletin board outside our large freshman lecture hall in Science Building.
    - Career link on our Biology Majors Blackboard site (initiated, not completed)
    - Developing materials for our redesigned Departmental website on careers and Alumni stories.
  - (ii) **Gathered data on initial career interests of freshman to better direct students.** Surveyed our BIO 101 students for Fall 2016. Students in BIO 101 on Day1: of the 307 attending 258 completed the questionnaire (84%). Of these, 98 students aspire to be Medical Doctors (38%), 28 of those 98 MDs aspire to be surgeons (11% of students; 29% of students with MD aspirations), and 142 students (55%) identify as Bio majors or Pre-professional Bio majors.
  - (iii) **Scheduled alumni speaker events with students.** One panel was held Oct 2015. A second panel is being planned for March 2017. Also had several alumni in as speakers in our Departmental Seminar, open to all students. At the Oct'15 event, 20+ freshman attended, along with additional upperclassmen and graduate students.
- d) **Emphasized use of Science Building Help Center** by improving text in Syllabi and in course lectures, and in Bio Majors BB site; **Recruited high-performing students** to serve as tutors and SIs.
- e) **Graduation check-up** Began graduation check-up at 90 hours, by biology advisors.
- f) **Began Statistical Analyses** of attributes of successful students, and is continuing. For example, for the FA14 & FA14 cohorts, students with a MAPLE score 12 or lower have a 95% likelihood of failing BIO 101.

**1. Objective/Actions Not Achieved (briefly explain using bullet points):**

- a) ONGOING. Create PowerPoint slide(s) for BIO 101 & 102 faculty in lectures to communicate Career Options (ongoing).
- b) ONGOING. Develop more exercises for BIO 101/L, BIO 102L course work that will explicitly require students to use the Help center.
- c) ONGOING. Identify additional funding to assist in supporting the Help Center tutors.
- d) ONGOING, Identify and provide space for Tri Beta Student organization.
- e) ONGOING Schedule alumni speaker events with students
- f) ONGOING- Data analyses. TO inform advisors. To decide on whether minimum MAPLE score or minimum BIO 102 grade should be required for moving on to required BIO core courses (etc.).

**Looking ahead, briefly describe changes, additions, or subtractions that need to be made to your goals and/or action steps, including with respect to their linkage to student learning outcomes.**

- Will revise our advertising strategies for *STEM Summer Starter* to get greater participation. Will work with Math Department to implement.
- Work with The Alumni Association and the African American Cultural Center to get a list of our minority Biology alumni so we can invite more CAREER alumni speakers to talk to our freshman and sophomore majors.

**2. Do you see opportunity for this project to work more closely with another department, college, or unit such that greater impact might be possible (briefly explain)?**

- Working with the Math & Computer Sci., to consider and identify strategies for improving math abilities of our incoming students.
- Also for revising Math for Biologists- such as a *Calculus* section that focuses on Life Sciences examples, for all pre-professional students.
- Continue developing outreach to High School students and their science teachers, to better communicate what course work enhances students' preparation, and hence success once in college.

**3. Is there anything else about your initiative you feel important to detail?**

- **Funding to hire a grad student as a Student Success RA.** It is challenging for departmental chair and faculty to keep all these activities moving forward with all of our other departmental tasks, teaching, advising, and mentoring undergraduate and graduate students.
  - Such a student could help carry out and coordinate many of the activities.
  - Because biology graduate students are familiar with the undergraduate program and the students, as they serve as TAs in our undergraduate laboratories, they could be highly effective in assisting in implementation.
  - They have the expertise to do the time-consuming collation of data and data analyses.
  - This would be a highly beneficial aspect to career development for graduate students intending on entering academia.