

# 2016-17 Department Student Success Plan Assessment Report

## Biology Department

Please answer the following questions in two pages and submit to your Dean by October 2. Your Dean will offer you feedback by Oct. 16 and advance final version<sup>1</sup> to Academic Affairs by October 20. This report will inform your 2017-18 Student Success Plan update that will be due to your Dean by Nov. 3. Previous report and plans can be found at this website: <http://irt2.indstate.edu/cms7/sp16/index.cfm/department-plans/>.

**Person Primarily Responsible for Preparing this Report:** Undergraduate Affairs Committee

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

#### Regarding Freshmen Retention

- Per the previous Student Success Plan, we evaluated the profile of our incoming freshmen and their success in BIO101 and BIO102. Factors evaluated included MAPLE scores, SAT scores, and GPA. As a result of these evaluations, The Department of Biology consulted with various entities across campus regarding supplemental course offerings that could be utilized to improve freshmen retention and success. As a result of these consultations, the Introductory Biology courses, BIO101 and BIO102, will be offered in Spring and Summer sessions, respectively. To ensure that students dropping courses in the Fall semester do not fall below their minimum number of credit hours, students will be encouraged to add an 8-week foundational studies course.
- Several courses have implemented early intervention strategies including studying techniques and utilization of supplemental instruction services. For example, one course has collaborated with other entities on campus to generate a workshop: How to succeed in Biology and keep your Street Cred. These strategies will be evaluated and potentially expanded for the introductory courses.

#### Regarding Persistence to Completion Goals

- The four-year graduation rate for Biology majors increased. This improved 4-year graduation rate is the direct result of advisor intervention. Curricular issues were acknowledged by advisors and thus the flexibility of the major was increased via waivers and substitutions. For example, advisors clarified math requirements and electives. Scheduling conflicts were also recognized and adjustments made to reduce curricular conflicts. Ultimately, curricular changes are in process and will be implemented under the next success plan.
- We used signage within the department to demonstrate to students possible career options for a Biology major.
- In BIO 101 L, we discussed careers related to several of the labs and also directed students to attend BIO 490 seminars (see below) for extra credit, thereby increasing their exposure to professional biologists.
- In our BIO 490 seminar course, which is heavily populated with Biology juniors and seniors, we asked speakers to spend the first few minutes of their presentation detailing the pathway they took to their present professional position. Biology students have learned about the educational requirements for particular careers, and how professionals sometimes veered away from their original paths (from pre-med to ecological research, or from a trade to biology).

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<sup>1</sup> Dean will request a refinement to the report if it is not suitably addressing the questions. Report will be shared with Trustees.

- We hired 7 students for SURE projects in Biology & The Center for Genomic Advocacy this summer, which allowed students the opportunity to identify their true career interests, and make connections between lecture content and practical applications in Biology.

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

**Regarding Freshmen Retention**

- Several strategies were discussed and early intervention activities implemented.
- A STEM starter program was initiated for students identified as at risk for failure prior to starting the introductory courses in the major. Data from this program is under evaluation by the department.

**Regarding Persistence to Completion Goals**

- We have not yet examined enrollments in core Biology classes to find students who are re-taking core classes unnecessarily. Doing so could change our advising model in Biology.
- We have not yet added career options slides to BIO 101 and 102 lectures.
- We have not attempted to grow student awareness of the Biology MLS program, though the number of students in this program has increased from 2 in 2015 to 14 in 2017.

3. **Attention areas going forward as informed by 2016-17 retention, completion, course completion ratio, credit hour productivity, and D/F/drop rate data provided as well as other Blue Report or departmental data** (*briefly explain using bullet points*).

- *Retention changes even out across Biology majors:* Retention went up by 6%, but went down 6% for students who changed to the Biology major after starting at ISU.
- *Graduation rates are up!* For students who started in Biology, graduation rate went up by 16%. For students who declared Biology later, the rate went up by 5%.
- *Fewer students completing lower-division courses:* We saw a 2.35% decrease in the number of students earning credit for lower-division courses and a 0.28% increase for those earning credit for upper-division courses. We should focus attention here (see also *Success Rates* below).
- *Little movement in credit hour productivity from year to year:* In Fall to Spring 2015–2016, there was a 1.25 to 1.26 credit hour gap between hours enrolled and hours earned.
- *We see lower success rates in Fall, when students first attempt the core courses in the Biology major. Students who persist to Spring are more likely to achieve success:* There was a 2.78% increase in the number of undergraduate students who received a grade of D or F in an UG course in Fall 2015–2016, but a 1.12% decrease for Spring 2015–2016. DF drop numbers in BIO 101 (only offered in FA) have increased in the last three years; from 36% in FA 14 to 48% in FA 16. The largest increase is in the drop category—from 8% in 14 to 18% in 16. The department’s new student success plan will put in place high impact practices, including support for SI’s and expectations that faculty request these resources, providing support for faculty interested in innovation in critical courses and supporting advisor efforts to utilize early warning systems.