

Department of Biological Sciences Strategic Plan

Mission Statement

The Mission of the Department of Biological Sciences is to cultivate a diverse and thriving intellectual community of faculty, staff, and students focused on excellence in teaching, learning, and research in the life sciences. Faculty and staff are dedicated to nurturing students so that they (1) graduate with a clear understanding of the major biological concepts and an awareness of how these concepts are interconnected within the sciences as a whole, and (2) have acquired the technical, problem solving, analytical, and communication skills that will provide a strong foundation for lifelong learning and progressive career development. The Department places a strong emphasis on the mentoring of undergraduates and graduate students through participation in cutting-edge research that advances scientific knowledge.

Strategic Initiatives and Objectives

Strategic Initiatives

In the development of the Department's strategic initiatives, the Strategic Planning Committee felt that it was important to emphasize our vision of the Department as an intellectual community. Rather than dilute this vision, the Committee decided to keep the number of strategic initiatives small, and left the details to the objectives. The three strategic initiatives are:

1. Enhance student learning outcomes and opportunities.
2. Create a thriving intellectual community
3. Improve infrastructure and support services to facilitate success by students, faculty and staff.

Initiative 1: Enhance student learning outcomes and opportunities.

- 1.1. The hiring of new tenure track faculty is essential. While the FTEs achieved by the department have been steadily climbing, this has been accompanied by a steady decline in the total number of tenured and tenure track faculty. The net result is that gateway courses in the major are now chronically staffed by part-time faculty, and the tenure track and tenured faculty must bear an increasing load of advisement and committee work. Thus, the single most important objective is the hiring of new faculty. Without an increase in the number of tenure track and tenured faculty, the full implementation of the objectives of this initiative is in jeopardy.
- 1.2. Develop a written enrollment/class staffing plan that will support greater enrollment, accelerate student progress to graduation, and increase approvals of tenure track faculty and staff hires.

- 1.3. Examine student retention rates in the undergraduate majors and determine what staffing and other changes may be required to increase student retention.
- 1.4. Revisit the introductory biology sequence.
 - 1.4.1. Assess success of changes relative to the old 101-103 introductory series.
 - 1.4.2. Make further revisions to improve student progression through 100ABC.
 - 1.4.3. Implement lab exercises to enhance student quantitative and study skills.
- 1.5. Ensure adequate involvement of tenured/tenure-track faculty in lower division and core courses.
- 1.6. Evaluate the adequacy and effectiveness of the upper division core sequence in both undergraduate majors.
 - 1.6.1. Decide whether a course in Evolutionary Biology should be required.
 - 1.6.2. Formulate a policy on prerequisite enforcement in core classes.
 - 1.6.3. Review currency of prerequisites of electives.
- 1.7. Develop a long range plan for upper-division course offerings to enable undergraduates to take a logical sequence of courses in their area of interest.
- 1.8. Hire a science educator to develop a program of training for future teachers, and professional development opportunities for current teachers. The science educator would also work with faculty to further develop the introductory biology sequence, and help organize opportunities for undergraduates in the area of pre-service and in-service learning. (Search in progress at the time of writing)
- 1.9. Increase the number of graduate-level courses that are offered throughout the year to accommodate the needs of our growing population of M.S. students. The schedule should guarantee continuity of students programs and resolve over-enrollment problems.
- 1.10. Explore a requirement for mandatory academic advisement of all Biology and Microbiology majors. This would help us to promptly identify and apply intervention strategies for at-risk students to ensure that they successfully complete their studies. It would also allow us to identify outstanding students that we can encourage to apply for competitive research fellowships, academic scholarships, and other opportunities.
- 1.11. Provide future opportunities for student training in cutting-edge fields, by developing a programmatic vision for departmental expansion into emerging frontiers in the biological sciences. The expansion would include new faculty hires, curriculum enhancement, and networks of on-campus and off-campus partnerships.
- 1.12. Identify and acquire additional sources of support for all qualified graduate students, regardless of ethnicity.

- 1.13. To the extent allowed by staffing and other fiscal constraints, adopt the best practices of successful programs such as CEA-CREST, MBRS-RISE, MARC, and LSAMP to increase retention, speed graduation, and increase admissions to highly competitive PhD programs. Such practices include workshops on career opportunities, applying to graduate school, recommendation of GRE prep courses, and community-building activities (see Initiative 2 below).
- 1.14. Develop collaborations with other academic and business institutions that can provide training and internship opportunities for our students, especially in key areas such as pre-professional health, biotechnology, bioinformatics, and environmental biology.
- 1.15. Continue cooperation with the University Development Office to identify and foster relationships with potential donors with the goal of increasing one-time donations, scholarship funds, and endowments to support student research training and access to education.

2. Initiative 2: Cultivate a thriving intellectual community

- 2.1. Continue to cultivate a culture that sustains the intellectual and professional growth of faculty and students.
- 2.2. Align the department's research and teaching goals with the long-range hiring plan for new faculty. That plan would integrate existing department strengths with new hires to generate areas of strength. Complementary hires would be planned to promote intellectual synergy and foster interdisciplinary research and educational collaborations.
- 2.3. Devise and adopt mechanisms to increase faculty and staff job satisfaction, to aid in future recruitment and on-going retention efforts. Improving morale is crucial for retaining and preventing further attrition of our experienced tenure-track and tenured faculty within our already diminished ranks.
- 2.4. Develop mechanisms to promote the professional development of staff members.
- 2.5. Integrate research and teaching by strengthening activities to fund curricular innovation and offer more courses with experiential (research-based) activities.
- 2.6. Continue to work with other departments to develop interdisciplinary elective courses, to better prepare students in key areas such as biotechnology, computational biology, and mathematical biology.
- 2.7. Restore the Department seminar series as a forum to develop new ideas and initiate collaborations within our campus and with outside investigators.

- 2.8. Gain greater University assistance in securing funding for faculty research.
- 2.9. Establish mechanisms to improve undergraduate and graduate student awareness of career opportunities in the biological sciences.
- 2.10. Promote student awareness of scholarship opportunities, and foster students' scholarly ambitions.
- 2.11. Find the means to increase release time for hands-on mentoring of research students as they learn to perform laboratory and field experiments, participate in conferences, and prepare peer-reviewed journal articles for publication. Mechanisms for support might include matching funds for release time from the University or College, Department discretionary funds, external grants, more units for student research training, etc.
- 2.12. Explore sources of funding for supplies needed by students enrolled in research courses (BIOL 396, 499, 597, 598, 599).
- 2.13. Develop strategies to recruit a diverse pool of high-achieving students, to help raise the overall intellectual level of the student body and inspire greater academic achievement.

Initiative 3: Improve infrastructure and support services to facilitate success by students, faculty and staff.

- 1.1. Work with University Auxiliary Services administrators to significantly decrease the turn-around time for purchase orders, check requisitions, stipends etc., to be commensurate with our sister campuses in the CSU system
- 1.2. Work with University and College administrators to streamline the processing of student coordination of aid forms; increase the efficiency of the Student Financial Aid office, reduce the number of lost forms, and ensure that students are paid on time.
- 1.3. Work with the University, College and Auxiliary Services administrators, to develop a plan to improve support services in grant acquisition and management.
- 1.4. Work with administrators to assure a smooth relocation to the Integrated Science complex.
- 1.5. Develop a coordinated departmental plan to work with administrators to improve infrastructure for both teaching and research. Emphasize the role of support staff in meeting departmental needs, and the importance of timely instrument maintenance and repair.

- 1.6. Document the need to maintain adequate infrastructure for classrooms and research laboratories in order to provide a high-quality educational experience for our students.