

**Program Performance Review for the Biology Department
California State University Fullerton
Department Visit Conducted March 19, 2018**

PPR Committee Members:

- Phil Armstrong, Professor, Department of Geological Sciences, CSU Fullerton
- Victoria Costa, Professor, Department of Secondary Education, CSU Fullerton
- Jeff Thompson, Associate Provost for Research, Emeritus, Department of Biology, CSU San Bernardino
- Stuart Wooley, Professor, Department of Biology, CSU Stanislaus

Report Organization:

- Evaluation and Recommendations Regarding Charge from the Dean, College of Natural Sciences and Mathematics, California State University, Fullerton
- Identification of Program Strengths
- Identification of Areas for Program Improvement

Evaluation and Recommendations Regarding Charge from the Dean

1. Low Rate of Students Passing Biology 151

Findings:

- Interviews with faculty and review of the PPR narrative document multiple efforts to improve these BIOL 151 passing rates, including extensive Supplemental Instruction and changes to how the 2-semester series is taught (content, sequence order).
- Many faculty noted students' lack of enthusiasm towards and preparation for successful completion of the course.

Recommendations:

- Department should continue Supplemental Instruction and use of BIOL 151 for program SLO assessment.
- Department should continue exploration of additional strategies to improve student preparation for and enthusiasm towards BIOL 151, including evaluation of specific course content as well as how and by whom the course is taught. An examination of active learning techniques, and incentives to and encourage class attendance and participation would be useful.

2. Value of Five Concentrations Given Student and Faculty Involvement

Findings:

- No faculty members reported that they felt the number of concentrations is too many
- Faculty acknowledged that the concentrations have different numbers of students, but don't see a lack of resources or a complication among faculty due numbers of students. Faculty across the board indicated that they teach courses and do research that crosses over the perceived boundaries of the concentrations. For example, plant biologists also work in cell biology.

Recommendations:

- In spite of disparities between student enrollment and faculty research areas across the concentrations, the Committee did not find evidence that five concentrations pose an issue in the Department.
- Because of the complexity associated with offering multiple concentrations in an undergraduate degree, the Committee recommends that faculty continue the careful advising currently provided to students to insure they are making informed decisions.

3. Recommendations Regarding Building Renovation Needs

Findings:

- There were many suggestions from faculty and staff regarding equipment much of which is aging and in need of replacement, as well as issues of storage space. There are concerns about stability of

infrastructure and agedness of the facilities (e.g., old electrical systems, lab counters, and decrepit greenhouse and its air conditioning system). A critical concern was the lack of an emergency electrical power system which has resulted in loss of valuable supplies and research samples.

- Although space is an issue across the College and University, additional storage space could be built/renovated, benchtops replaced, floors in the animal care facility replaced, and update electrical systems, including permanent solutions for emergency power.
- The model of clumped labs like the MH floor 6 cluster seems to be an effective use of space and allows for both faculty and student research.

Recommendations:

- Because the Department has little control over space and facilities, the Dean and the University need to work with the Department to identify critical needs, and a path forward to solving the space and facilities issues.

Identification of Program Strengths: High-Quality and Collegial Personnel (Faculty, Staff, and Students)

The Committee commends the Department of Biology for its high quality and collegial personnel. It is evident that faculty, staff, and students all contribute to and benefit from a culture of collegiality, research excellence, and mentoring in support of each other and the mission of the Department, College, and University.

1. Faculty

Across all levels, faculty demonstrated cohesiveness; willingness to work across concentrations to collaborate; and a commitment to the educational mission of the department and the University. One lecturer indicated that the main strength of the Department personnel is “that they are focused on student success.” Active-learning is used among faculty in their classes, with a strong commitment to hands-on teaching, as evidenced by the inclusion of many labs and field courses in the curriculum. Faculty are committed to evidenced-based teaching through faculty participation in Department-level assessment that takes place in their classes through validated concept inventories or other methods. Faculty expressed a strong commitment to student advising. Because they have a large freshman class, they have been creative and are doing group advising for them. They also have an advising committee that trains the rest of the faculty advisors to streamline advising and ensure consistency across the faculty. In addition, they have a commitment to help probationary students through a Probation student advising committee to help increase student retention and success. They indicated that the concentrations are not a barrier to timely graduation rates, nor does that structure remove resources from other areas. Rather it is a natural response to faculty interest, expertise, and student demand. New faculty members are assigned a faculty mentor when they arrive.

The main concerns for tenured faculty (mid and late career) are

1. General campus leadership turnover leading to inconsistent changes in policy and processes;
2. Lack of support/efficiency in grant post-award process;
3. Lack of resources (department, college, university) relative to past;
4. Equipment attrition; and
5. Lack of time for writing (manuscripts and grant proposals).

The main concerns of tenure-track faculty are

1. The Department Personnel Document (DPD) lacks clarity regarding specific requirements for service;
2. The grant pre-award system is not effective in helping them write grants;
3. Lack of campus research support relative to the teaching resources. The TT faculty expressed concern that, though they have considerable help and resource for teaching (e.g., FDC), there is little campus help and resource for research support.

The main concerns for lectures are

1. Inconsistencies in DPC evaluations of lecturers due to DPC members not teaching courses taught by lecturers;
2. Lack of incentive to make changes to course instructional methods because changes that are made take a year or two to lead to improved teaching and evaluations, hence it is better evaluation-wise to not change.

2. Staff

Staff have a willingness to work hard to make sure that the equipment (IT, microscopes, freezers, etc.), spaces, record-keeping, departmental organization, etc., are functional, despite the lack of resources to maintain aging equipment and spaces, including electrical systems. They have found creative ways to maintain and keep the department teaching, research and service afloat. Because of their organization the department runs efficiently. The Committee recognizes that staff members view their employment as more than just a job, but see themselves as members of an academic department dedicated to the educational mission of the University and the Department. Staff members were praised by faculty and students for their amazing efforts.

The main concerns of staff members are

1. Equipment attrition; and
2. Reduced resources.

3. Students

Graduate students interviewed (all but one of students we met with were in the graduate program) reported that they feel supported by the faculty and also find support among each other. They report that the faculty are available for them and work to benefit the graduate students through delivery of a rigorous graduate program. Most of the 10 graduate students we met with worked either on campus (TA) or off-campus.

The main concerns of graduate students were:

1. That they had to pay back their TA salary as tuition and
They are required to take 400-level courses as part of their study plans.

Identification of Internal and External Concerns

1. Increased Numbers of Majors

Findings:

- The increase in the number of majors has led to (1) substantial class/lab room and scheduling conflicts and (2) academic advising overloads.
- The PPR indicates that one Departmental priority is the hiring an additional staff adviser.
- Innovative advising strategies have been implemented, including identification of several faculty who advisor probationary students and the group advisement of freshmen in the major.

Recommendations:

- The Department should work to increase lab student capacities if possible.
- The Department should continue to pursue appointment of a staff adviser.
- The Department should continue to streamline advising with more group advising and tailored advising (e.g., continued efforts toward at risk students and less for high performing students)

2. University Call to Increase Graduation Rates to meet GI2025 Required Levels

Findings:

- The Department has improved flexibility of the course sequence by reducing required units in the core and increasing course sequence demands.

Conclusions:

- Department should identify ways to assess the effectiveness of the above strategies.
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3. Loss of FTES Due to Competition for Students Meeting GE B.2

Findings:

- There is a concern that an increase of enrollment in ANTH101 (GE B.2) will result in loss of OEE money to the Department.

Recommendations:

- The Department should continue to pursue development of new courses to meet GE B.2. One possibility mentioned was Biology of Disease, which could be offered online or as a hybrid course.

4. Equipment Attrition

Findings:

- The need to replace aging equipment as identified in PPR and committee meeting (vehicles, microscopes, freezers) is a problem throughout the college and is not likely to change in the foreseeable future.

Recommendations:

- The Department should work to increase additional funds through increase grant IDC and philanthropy.
- The Department is encouraged to increase department engagement with alumni and donors as a way to seed additional funds; both are recommended as ways to both increase “rainy day” funds and better engage alumni
- The Dean and University need to identify funding mechanisms for repair and replacement of equipment. This may include re-evaluation of campus policies regarding “carry-over” funds which can partially meet this need.

5. Graduate Student Issues

Findings

- The tuition “tax” on TAs, who provide critical services to the university, is a huge roadblock to getting the well-qualified graduate students into Biology (and other) programs.
- Graduate students were concerned about requirement for 400-level courses in their program.

Recommendations”

- The university needs to work with the college and department to find ways to offset the tuition for these students.
- Grant PIs are encouraged to include tuition costs for graduate students in grants
- The Graduate Program should provide flexibility to allow students to complete programs without requiring 400-level courses.

6. Providing Research Resources for Faculty

Findings:

- There is a lack of connection between the strategic goals and the research expectations of faculty. As an example, there are campus-wide resources for teaching, but there is a lack of resources for research (money, assigned time). Faculty members need greater support for writing grants, like assigned time.
- There are teaching resources from the CO (e.g., course redesign) and the Faculty Development Center, but little campus resource for research efforts.

Recommendations:

- The Department should explore ways to coordinate efforts with AVP Research and Sponsored Projects Chris Liu.