

**EXECUTIVE SUMMARY**  
***Academic Program Review***  
**Biology**

**EXTERNAL REVIEWERS**

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**CAMPUS VISIT:**

April 11-13, 2007.

The review team read the self-study written by the faculty in the department; reviewed the curriculum, course syllabi and evaluations; conducted class visits; interviewed faculty, students and staff; and met with the Dean, Associate Deans and other relevant members of the campus community. Prior to their visit, the reviewers were provided with USF's Vision, Mission, Values Statement, the department's self-study and other university materials.

**1. How did the external review committee rate the quality of the program – excellent, very good, good, adequate, or poor? How does the program compare with benchmark top-tier programs nationally? Please provide a brief rationale for the external review committee's rating.**

- While not specifically comparing the department to top-tier liberal arts colleges and universities, the implication is that they rated the department and its programs as VERY GOOD.

**2. What are the most important general issues that emerged from the external review process?**

- In general, many of the review team's recommendations focused on suggestions for strengthening the curriculum.
- Space was clearly a major issue for the Biology Department.
- The reviewers observed that department faculty have an "inordinately large advising load".
- The reviewers felt strongly that the Biology curriculum would be strengthened by improved interactions and shared curricular development with other science departments.

**3. What specific recommendations for improving the program's quality has the external review committee made to the Dean?**

**a) Curriculum**

- The reviewers noted that the "curriculum is inappropriately driven by the pervasive student interest in medicine as a post graduate goal rather than by faculty

- deliberation to provide exposure to the breadth of the discipline”. This occurs even though comparatively few students apply to medical school in any one-year. Many of their curricular suggestions stem from the philosophical position that the Biology curriculum needed to move from a human-centered focus to a more broad animal-centered focus and that it needed to better prepare students for non-medical careers in the allied health sciences, biomedical/biological research and education.
- General Biology: The reviewers suggested switching the sequence between Biology 105 and 106; using more interactive forms of pedagogy; using peer educators; deferring the beginning of the Biology curriculum until the second semester; and utilizing its own faculty in teaching these courses rather than adjuncts. While they recommended increasing the use of undergraduate teaching assistants in a supporting role to the primary laboratory instructor, they did not “encourage the practice of using undergraduate students as the sole instructor in any lab course”.
  - Sophomore curriculum: The reviewers recommended dropping Cell Physiology (BIO 212) from the core (but not the elective) curriculum, adding a laboratory component to Genetics (BIO 310), adjusting the breadth of coverage of Genetics to include some topics from Cell Physiology and the addition of an integrative course in Ecology and Evolution.
  - Electives: The review team encouraged the department to consider “re-programming some electives from a human-centered focus to a more broad animal-centered focus”. The department also has to consider the staffing of elective and core courses and the ‘caps’ placed on class size.
  - Seminar program: The reviewers strongly urged the department to establish a seminar program in Biology.

#### b) Faculty

- Advising: The reviewers noted “what separates USF faculty workloads from those of comparable institutions is the inordinate amount of one-on-one student advising that occurs”. They recommended that the department not advise Biology minors or undeclared students, even those with an interest in Biology. The advising load should be shifted to other faculty within the Natural Sciences. The department should also consider the group advising sessions and the use of peer advisors.
- Teaching loads: The reviewers noted that faculty teaching loads “seem to be in line with those found at many selective liberal arts colleges” and that the chair received a teaching reduction in line with many other campuses. They were surprised however that the pre-professional health advisor did not receive a similar teaching reduction given the advising workload.
- Scholarship: The reviewers noted the “research active emphasis” of the department, were impressed with the financial support for travel and research but wanted the faculty to encourage more undergraduate students to do advanced independent research.

#### c) Relationship with Other Departments

- The reviewers felt strongly that the Biology curriculum would “be strengthened by improved interactions and shared curricular development with the Environmental Sciences, Chemistry and Computer Sciences departments” particularly in the areas of evolution and ecology, biochemistry and bioinformatics.

#### d) Graduate Program

- The reviewers were very supportive of the graduate program both in regards to the quality of education the students receive and the important contributions they make to undergraduate education in Biology. Specific recommendations were made for improvement (e.g., a seminar course each semester) and they argued that some expansion should be considered.

e) Partnership with UCSF

- The reviewers were very supportive of the partnership with the UCSF BEST program which brings high quality post doctoral and graduate students to USF to serve as laboratory instructors, supplementing the department's own graduate program. The post doctoral students might also make excellent presenters of electives level courses but the review team felt they should not be given the task of lecturing in the General Biology (BIO 105/106) sequence.

f) Support Staff

- Because of the lack of adequate laboratory space, the reviewers were not convinced that the department needs net additions to the faculty at this time. They did however unanimously support the hiring of additional technical staff within the Natural Sciences to handle routine maintenance of equipment as well as supporting the presentation of the Biology curriculum.

g) Space

- Current space is clearly inadequate and is an on-going issue for the department. The reviewers recommended that once the new Science building was completed, the renovation of Harney Science Center should be an immediate priority. The Dean's Office should also be moved to a new location and the College needed to protect faculty common areas and student social spaces.

h) Students

- The reviewers addressed the issue of the perceived decline in student quality in Biology but noted that this was a University-wide issue. They agreed with the department's view that "the missions of recruiting students for academic success and expanding educational opportunities" were not mutually exclusive.
- Rather than focusing just on admissions, the reviewers encouraged the department to consider strategies that yielded a greater number of well-qualified admitted students.
- They supported the changes made by the department that put performance criteria in place for students to progress in the major and encouraged the University to continue its support of the University Scholars and to expand the program should funding become available.

**4. In the opinion of the external review committee is the program following the University's strategic initiative in that it is;**

*Recruiting and retaining a diverse faculty of outstanding teachers and scholars.*

- The review team noted the "research active emphasis" of the department and referred to the high quality of teaching.

*Enrolling, supporting and graduating a diverse student body that demonstrates high academic achievement, strong leadership capabilities, a concern for others, and a sense of responsibility for the weak and vulnerable.*

- The reviewers made a number of recommendations for improving the quality of the students.

*Providing the environment necessary to promote student learning in the program.*

- The review team noted that the department had strong leadership and they had the impression that the department seemed to “function well as a group with department members feeling comfortable with the decision-making process in the department”.

**5. In what way is the program contributing to the goal of making the University of San Francisco a premier Jesuit, Catholic urban university with a global perspective that educates leaders who will fashion a more humane and just world?**

- The reviewers emphasized that both faculty and students in the department were well aware of the mission and priorities of the institution and were comfortable with these goals.

**6. What is the timetable for the response to the external review committee’s recommendations for program improvement? What can the AVP’s office do to appropriately respond to the review?**

- Continue and expand the University Scholars program.
- Encourage greater collaboration between science departments.
- Move ahead with the new Science building and the renovation of Harney Science Center.
- Make available resources to expand the number of support staff in the Natural Sciences.

**7. What general comments or issues, if any, are crucial to understanding the reviewers report?**

- It would be unfair to evaluate the department without recognizing the deficiencies in physical space and support staff.