



CALIFORNIA STATE UNIVERSITY, FULLERTON

Office of the Dean

College of Natural Sciences and Mathematics

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TO: Su Swarat, Director of Assessment and Educational Effectiveness

FROM: David Bowman, Interim Dean
College of Natural Sciences and Mathematics

SUBJECT: Dean's Evaluation: Department of Physics Program Performance Review

The Department of Physics conducted a thorough Program Performance Review in AY 14-15. The PPR includes a comprehensive review of Department staffing and operations, as well as a thoughtful review of the two degree programs offered by the department: the BS in Physics and MS in Physics. The external review committee included three highly qualified individuals representing diverse viewpoints relevant to the Department's mission and goals. The review committee included one member from another department at CSUF (Dr. Binod Tiwari, Civil and Environmental Engineering), one physics faculty member from a comparable CSU (Andreas Bill, Department of Physics, CSU Long Beach), and one physicist from a non-CSU institution (Allen Landers, Department of Physics, Auburn University).

Commendations

- The Department has been very strategic in its hiring plans, building upon core research strengths such as AMO physics and physics education research, while establishing and building exciting new research/teaching strengths such as gravitational-wave astronomy.
- The Department has a strong tradition of research and grant productivity, and excellent promise to continue and expand this tradition.
- The Department curriculum is well formulated to prepare students for careers in both industry and academia. The Dan Black Physics-Business Concentration in particular is noted for its innovative structure and emphasis on producing broadly educated, career-ready students.
- The proposed BS in Astronomy represents a strong departmental commitment to supporting the expansion of this research emphasis within the college, and seems to be strongly supported by student interest.
- The Department has undergone tremendous growth since the last PPR. Although much of this growth is driven by general education and service courses, the department has also seen dramatic growth in undergraduate majors.

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- The Department has provided strong leadership on key university and college curriculum efforts, including faculty leaders in assessment, general education, and WASC accreditation.
- The Department is to be commended for its engagement in college-wide research centers, including the Center for Computational and Applied Mathematics, CATALYST, and the Gravitational Wave Physics and Astronomy Center (GWPAAC).

Recommendations

- The Department and PPR External Reviewers identified a need for a new technical staff person in the department. The department needs to make a clear explanation of the need for such a position before any discussions can be held at the College or Academic Affairs level. This should include a clear indication of the department's technical support needs, the existing technical support, and detailed accounting of the responsibilities expected in a desired new position. Because resources do not currently exist for such a position, they need to very carefully and explicitly document the anticipated Return on Investment, in this case the increase in FTES and/or research dollars that would be generated with the position.
- The Department and External Review Committee both comment on the need for additional office and laboratory space. As plans progress for the renovation of McCarthy Hall, the department should ensure that they are actively engaged in discussions about how the building will be reconfigured. This discussion needs to be a high priority of the new NSM administration.
- Department and Review Committee both comment on the need to increase the Department's OE&E budget. This is a serious problem across the college and should be part of a broader discussion between the college and university leadership.
- The Department and Review Committee both comment on the need to improve access to the Machine Shop. There has been discussion between NSM and ECS about resolving this issue, and the college hopes to resolve this issue before the change in leadership in both NSM and ECS.
- The Review Committee supports the addition of an Astronomy major within the department. Although the college strongly supports this proposal, the Chancellor's office has recently rejected the proposal for a provisional BS in Astronomy. The dean's office will work with the department and Academic Programs to develop a strategy for implementation of an astronomy program in light of the CO's decision.

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