



University of Wisconsin-Eau Claire

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Date: May 25, 2020

To: Provost and Vice Chancellor, Patricia Kleine

From: MEMBERS OF THE UNIVERSITY SENATE ACADEMIC POLICIES COMMITTEE

Subject: APC report regarding program review of the Department of Physics and Astronomy

The Academic Policies Committee (APC) appreciates the time and effort of Chair, Erik Hendrickson of the Department of Physics and Astronomy, the members of the Internal Review Committee (Kris Knutson, Jessica Kraker, & Jill Olm) and the external reviewer (Dr. Daniel Holland) for the review of the Department of Physics and Astronomy. The internal review committee and external reviewer reports provided the committee useful information to assist us in forming our recommendations. While the APC recommendations are generally summarized on the attached spreadsheet APC is providing additional details in the form of this letter.

COMMENDATIONS:

The Department of Physics and Astronomy is to be commended for the following:

1. The department's number of physics majors that graduate per year.
2. The department's the retention rate of their majors.
3. The department's continued contributions to generated SCH.
4. The department's commitment to producing graduates that are sought after by private industry and recruited to top graduate programs.
5. The department's continued commitments to High Impact Practices (HIPs) inside and outside of the classroom.
6. The department's continued contributions to the community via outreach programs.

RECOMMENDATIONS:

1. Develop a Five-year Staffing Plan. The Department of Physics and Astronomy expects at least 50% faculty turnover in the next seven years due to retirements. According to the external reviewer, careful planning should be done to replace retirees as soon as possible. The internal review committee indicated that if the department is committed to creating an applied physics major and/or engineering physics major (see recommendation 2 below), awareness of potential retirements should enable the department to strategically craft position descriptions to recruit faculty members with expertise in engineering (or computational) physics. The purpose of this exercise is to indicate what the university can expect in terms of course availability, scholarship, service activities, and industry expertise in the future. In this exercise the department is forced to set priorities and to make the most effective use of university resources. The exercise also makes it clear to all individuals (both internal and external constituents) that different levels of staffing will result in different levels of service to the program, university, and community.

2. Establish Engineering Physics Major with the Accreditation Board for Engineering and Technology (ABET). According to the department's self-study, internal review committee, and external reviewer reports, the establishment of an engineering physics major would provide additional academic distinction and possible attract more students to the department. However, it

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Academic Policies Committee

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was also made clear that an additional faculty line with specific expertise would be needed for this to become feasible. Other options included the insertion of this faculty line into the 5-year staffing plan (see above) and/or a collaborative effort with other departments/programs on campus that have similar interest.

Summary Recommendation:

The Department of Physics and Astronomy is doing a great job in providing a distinctive, rigorous, and highly regarded undergraduate program. For the program to continue in these efforts, the APC recommends these immediate actions:

- Maintain and/or increase the numbers of students who graduate with a bachelor's degree in physics
- Explore ways to offer major courses/requirements more frequently to increase time-to-degree
- Consider establishment of an external advisory committee
- Continued development of a fully online lab course
- Continued assessment of student learning outcomes within the major, service, and LE courses
- Explore professional development, training, and/or strategies to improve EDI faculty/staff hiring practices
- Explore and create workload flexibility for increasing faculty scholarly productivity

APC strongly supports the recommendation from all the other review levels to “continue in present form” considering the recommendations made above.

Addendum to Program Review Form: The APC unanimously agrees to an additional recommendation (#14): The APC strongly supports planning for modern digital planetarium in the development of the new science building as a means of enhancing community outreach and outreach to K-12 schools.

Cc.

Dr. Erik Hendrickson, Chair, Department of Physics and Astronomy
Dr. Mary Hoffman, Director of Academic Planning and Assessment