

EXECUTIVE SUMMARY
WSU Five-Year Program Review
Department of Physics
Fall 2018

SUMMARY PREPARED BY:

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The Department of Physics at Weber State University is a dynamic group

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Spjeldik) is on time appointment. These total 9.5 FTE positions, a significant reduction from the previous program review of 12.25 in these same categories. Additionally, we employ two regular adjunct faculty members to teach evening courses and have several other adjunct faculty who teach lower-division laboratory courses. The significant reduction in contract faculty has made an impact on our course offerings. As our service load has increased from the College of Engineering, Applied Science and Technology, we shifted our offerings of PHYS 1010 Elementary Physics and our PHYS 1040 Introduction to Astronomy courses to more sections of our PHYS 2210 Physics I for Scientists and Engineers. These PHYS 1010 and 1040 courses were a place where we traditionally recruited new physics majors, so this potentially impacts the long-term recruitment of physics students. We have unmet demand for WSU students wanting those 1010 and 1040 courses that we've had to sacrifice in order to prioritize the 2210/2220 sequence that many WSU students need to progress toward graduation. Additionally, we have had to sever a long-standing teaching commitment to the WSU Honors Program.

Like the physics community in general, our contract and adjunct faculty do not fully match the diversity of the community we serve. The Department currently has 4 women full-time faculty members (out of 9.5 FTE positions), significantly outpacing the national trend (currently 17% by the American Institute of Physics 2017 Report on Women among Physics & Astronomy Faculty) and nearing gender parity. However, our student demographics do not match the faculty representation. The good news is that our more recent data show a historic high 31% of our current majors being female (Fall 2018 third week data, WSU). Our ten-year average of 21% female majors is much closer to our typical number. Time will tell if there is an increasing trend and if that will continue to graduate demographics.

The Department has made significant progress in confronting the issues raised in the last review as detailed in section H of the full self-study. We have continued to expand our repertoire for engaging students in classrooms, labs, and the community, but we also face challenges. The Department has (as mentioned above) experienced a significant decrease in the number of faculty at the same time that we work to recruit more diverse students to our program and support the needs of students in other expanding programs and general education.

In preparing this self-study, we have begun to look forward to meeting and working with the review team. We are particularly interested in feedback and recommendations regarding the following:

- Considering our faculty numbers and multiple demands, how can we strategically focus our efforts to meet the needs of students in our Physics program, other programs our courses serve, and our general education students? (We view these all as critically important.)
- With regard to trends not positive, e.g. reduction of number of faculty, reduction of general education and Honors offerings, how can we effectively work with the University to

- How can we effectively improve recruitment and especially retention of students in all of our programs, including our Physics Teaching program?
- Input on striking the right balance in our curriculum between theoretical rigor, skills-based instruction, and accessibility and value of our degrees.
- We acknowledge issues of work/life balance for faculty and staff, maintaining our collegial atmosphere, and dealing with pressures and demands on our time from outside the department. We welcome discussion about maintaining a positive environment in the department.
- Any advice or direction based on the addition of faculty members and research spaces in the department and college, particularly in the area of materials science. Are there specific suggestions for the department to lead or participate in interdisciplinary programs?
- Advice or feedback on the possibilities for 2-year degree programs that have found some success in other departments.
- The possibility of including Astronomy in the department name.

We are grateful for the opportunity to have this formal review, and we look forward both to the results of the program review and the next five