

Dean's Response to the Program Review of the Physics Program

July 31, 2013

I greatly appreciate the thought and effort that went into the report from the Program Review Team, as well as the self-study and report response by the Physics Department.

During this review cycle, I requested that departments select external reviewers without any ties to the department in order to ensure the most objective review possible. The Physics Department is to be commended for selecting excellent reviewers who met these criteria and also comprised an outstanding cross section of disciplinary professionals. During their visit, I provided the reviewers with a list of specific questions that I felt would help guide the evaluation, and assured each Review Team that their honest and objective observations, responses, opinions and suggestions were expected. They were asked to consider the questions in developing a SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats), which would comprise the core of their report. Consequently, the corresponding report reflects solely the views and opinions of the reviewers, and it appears to be extremely thoughtful and comprehensive in its assessment of the Physics program at Weber State University.

In their report, the reviewers identified a number of strengths, including the talented, collegial faculty team who together, demonstrate strong commitment to teaching, scholarly activity and meeting the needs of their students. Moreover, the reviewers strongly commended the department's strong student focus, as well as the involvement of faculty in university governance, and various types of community outreach. Here, the department and I fully agree with the review team's assessment, and I commend the department for its exemplary work in so many of these areas.

In developing their SWOT analysis, the reviewers made a number of suggestions that are included in the department response. The most significant of these appear to be addressed within the review team's ten recommendations to which the department also responded. I address my response to the recommendations:

1. *New Science Building: The reviewers recommended that the department insist that the plans for the new science building be revised to ensure that the department will have adequate space to meet its current and anticipated future needs. The department response notes that chairperson Inglefield serves as the Physics representative to the COS building committee, and has been a vocal advocate for the department. The department response also indicates that the entire department has been involved in the planning process, and that department space will indeed be increased. I agree with these components of the department response. However, my perception is that some of the department spaces currently proposed for the new building could be more innovative. Consequently, I recommend that the department think even more critically about how it can design its spaces for maximum adaptability and incorporate technology more effectively as we move into the design phase of the new building.*
2. *Strategic Planning: The reviewers recommended that the department develop a 5-10 year hiring plan to expand the depth, breadth, diversity, and expertise of the faculty. The department response indicates broad agreement with this recommendation. I appreciate the work that the department has done to define future faculty needs. However, I strongly recommend that the department should embark on the development of a robust, comprehensive strategic plan that addresses the dual mission of Weber State University, our student demographics, the broader needs of other university programs, and the needs of regional government, business, industry, and other stakeholders. As part of the development of the strategic plan, the department is strongly advised to consider the recommendations of the reviewers to consider partnerships with other departments, and consider the development of stronger ties with regional entities such as Hill AFB, Northrop Grumman, etc. To this end, and also suggested by the review team (as (10), below), I also strongly recommend that the department establish an external advisory board composed of representatives of various stakeholder groups who can inform and advise the department as it develops its strategic plan. I stand ready to help the department in this regard, and recommend completion of the strategic plan not later than the end of the 2014 Spring semester, at which time it should be submitted to the Dean for review.*

3. Increase the number of faculty: *The review team recommended that the department initiate a search next year, then replace retiring faculty immediately. The department response noted that they have not been successful in attracting support for new positions. Given the current federal, state, and local economies, and given other needs within the state, the institution, and also within the College of Science, it is unlikely that we will be able to provide any new positions unless openings somehow arise.*
4. Define “Research:” *The reviewers recommended that a consensus should be reached within the department and college on the definition of the term “research.” The department agreed with this recommendation. It is not immediately clear to me why exactly this is a recommendation of the reviewers, but, from reading the more detailed discussion of research in the review team’s report, I perceive that there are three areas of concern: roles and rewards, resources support (Facilities and Start-up), and institutional support (OSP and Purchasing). First, as noted by the department response, a college committee currently is reviewing and revising our COS tenure document, and they have been charged with defining more clearly what is appropriately considered “scholarship” (of which “research” and/or “undergraduate research” may be components). This is an ongoing process within the COS that may address the reviewers’ recommendation of a consensus definition. Second, the new building should provide better facilities to support a wide variety of scholarship among faculty, if they plan adequately for the future. However, although I recognize the relatively high level of external grant activity to date by the Physics department, I strongly recommend that faculty consider developing proposals to secure external support for their research and research spaces in the new building. Here it may be worth pointing out that letters to all new tenure-track faculty hires in COS contain an expectation that they will write and submit competitive proposals for external funding. Regarding new faculty hires, I agree that start-up funds remain woefully inadequate, and I will continue to attempt to locate additional sources of funding to address this need, which I agree is critical if we wish to attract qualified applicants. Finally, I consider OSP’s faculty assistance efforts to have improved greatly in the past two years, and I am confident that the leadership in that office will allow it to improve even more with time. I am willing to discuss Purchasing issues with the department and help the department bring those issues to the relevant administrators.*
5. Assessment: *The review team recommended that the department develop and implement a long-term assessment plan for program-level assessment, given that such an effort has the potential to “help the department better plan how to make improvements in the face of limited resources.” The department agreed with this recommendation. I also most strongly agree with this recommendation. While I commend the department for what they have done recently to revise their curriculum, their response indicates that they may misunderstand program-level assessment, which involves much more than assessment via a single capstone course, or by tracking graduates. During the program review process, WSU’s Office of Institutional Effectiveness also noted that the current Physics Assessment Plan has deficiencies that should be addressed. Consequently, I reiterate my agreement with the reviewers and strongly recommend the development of a robust, program-level assessment plan by the Physics Department, with an expected completion and implementation date of not later than the end of the Spring, 2014 semester. I am willing to help the department in this regard as time and resources permit.*
6. Increase professional development: *The reviewers recommended an increase in the number of faculty attending meetings and workshops to remain current in their field and learn about new pedagogy. I agree with the department response, which indicates that their faculty members attend meetings for research and professional development at the national level. However, I believe the intent of the recommendation stems from the reviewer’s perception that “nearly all teach using very traditional lecture-based classes.” While the department response takes issue with this statement, and while I acknowledge that there are a number of individuals within Physics who, commendably, are exploring new pedagogies, I believe that at a certain level, almost everyone can benefit from professional development. Consequently, as resources permit, I am willing to help support participation of Physics faculty in professional meetings given the expectation that participants will return to share what they learn at conferences with others and also strive to generate tangible, sustained, efforts intended to improve student learning and/or scholarly activity.*
7. Recruiting: *The review team recommended the expansion of the department’s recruiting efforts to improve diversity and the number of calculus-ready students who come to the program. The department response notes that recruitment is a college effort. I was very happy to see the department response also*

acknowledge Weber's dual mission, which challenges our recruitment efforts in COS, but must be nonetheless addressed. In their report, the reviewers made some very reasonable suggestions that could help the department improve their recruitment efforts (for example, two new courses that could be developed), and I encourage the department to consider these possibilities. I agree that the COS may be able to work with admissions to recruit more students, and investigating this will be a priority for the college in the coming year. At the same time, I recommend that the Physics Department integrate recruitment into its developing strategic plan, and use its Advisory Board to help identify ways in which it can attract more "Physics-ready" students to its programs. I am willing to discuss recruitment strategies with the department as they move forward in this regard.

8. Undergraduate Research Supervision/Workload: *The review team recommended that recognition of faculty who supervise undergraduates within a research setting should be increased. The department agreed, wisely, that this should be done as resources allow. This is a workload issue, which as the department response pointed out, has been discussed previously within the COS. However, I am willing to bring this issue up within the Dean's Council, given that it exists beyond the Physics Department and COS.*
9. Encourage Student Participation in Summer Research Programs: *The reviewers, the department, and I agree that we should be encouraging students to participate in external summer research programs such as those associated with NSF's REU program. Physics has done a good job of providing information on such programs to their students in the past, which is commendable. I encourage them to continue to encourage their students to take advantage of such programs and recommend that they consider developing and submitting their own proposal to the NSF REU program. Such an award would bring national recognition to an already strong program.*
10. Advisory board: *The review team recommended that the department form an industry advisory board. I was happy to see that the department found this idea intriguing. I agree with the recommendation and strongly recommend that the department make this a priority, given that such an advisory board can be extremely valuable in constructing a strong departmental strategic plan, as noted in (2). As noted in (2), should the department request my assistance in identifying or engaging appropriate members of the advisory board, I stand ready to help.*

Finally, I recommend that the Physics Department undergo a full program review again during the 2016-2017 Academic year. Beyond that, a return to the five-year cycle is anticipated.

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