

Administrative Response
Physics Program Review
May 28th, 2010

First, thank you for a thoughtful, well organized review addressing all of the items noted in the Program Review Guidelines. Your presentations were also thoughtful, thorough and well organized. There were, however, a couple areas where we would have liked to have seen more details. Most notably, demographics and assessment of outcomes at all levels and how those assessments resulted in program changes. Based on your presentation, we are confident assessment of outcomes is happening, but as presented in your program review document there are questions as to the details.

This response contains 4 sections: 1.) a listing of items of note, 2.) areas for further consideration, 3.) response to recommendations/areas of SAC needs and 4.) closing comments

Items of note

- Documented changes since the last program review
- College Mission and Goals and how the goals are met
- National guidelines relative to program
- Physics outcomes
- PCC Core outcomes and how the Physics Outcomes address them
- Assessment of Critical Thinking
- The development of Distance Learning/hybrid opportunities in Phy 101
- SAC responsiveness to community feedback/needs
- Background information on faculty, both full and pt
- Use of inquiry based learning
- Facility overview/qualifications
- Summary of strengths
- Split (integrated) lectures and labs
- Future surveys at the end of each series
- Goal to explore DL/hybrid for 101, 102 and 103
- Concept talking points/discussions/reflection

Areas for further consideration

In section 3.1 “Demographics” you cited two groups: 1.) decreased wealth and 2.) the unemployed. Later in that section you noted, “The Physics department at PCC could still improve its diversity by attracting more female and minority students as the department lacks diversity compared to Portland Community College as a whole.” Even though this was not included as a recommendation, we urge that

you work with PCC's Institutional Effectiveness to gather data specific to representation of female and minority students in your classes. Using that information, we suggest that you work with your Administrative Liaison/Division Deans to explore outreach and recruiting opportunities designed to attract a more diverse student body.

You devoted a significant portion of your report to program/course specific outcomes and mapping them to PCC's Core Outcomes. When addressing some of PCC's Core Outcomes and how they are met by your Intended Outcomes, you cited some methods of Direct Assessment, such as: written lab reports, complex homework problems, problems calling for reflection of data etc. In others, however, the connections were less specific. For example, under Professional Competence you noted, "All of our intended outcomes address issues of professional competency but Physics Intended Outcomes 3, 6, and 8 specifically call for the demonstration of professional conduct." Our question to you is, how do you assess this outcome? Additionally cited was a 6-question pre-post test, designed to assess students' critical thinking. Data gathered indicated improvement over the course of the term. We ask that you continue developing and refining assessments including both direct and indirect methods relative to your outcomes.

Assessment was identified as an area of focus for PCC during our very recent accreditation visit, and the April 2010 Interim Accreditation Report notes that: PCC must document *"progress in demonstrating, through regular and systematic assessment, that students who complete their programs have achieved the intended learning outcomes of degrees and certificates. Further, the college must begin to demonstrate, in a regular and systematic fashion, how the assessment of student learning leads to the improvement of teaching and learning."*

You noted "expected expansion of the Physics program to the Southeast Campus" is likely and stated, "...the Physics SACC recommends that this lab arrangement is not sufficient to accommodate growth in science in the future." We urge that you continue to work with the Southeast Campus Administration and Bond Teams to fully explore options to support program growth.

Recommendations/areas of SAC needs

Clearly, in light of the tremendous growth of the Physics department at Cascade, an additional full-time Physics instructor position is desperately needed at that campus.

As noted at the end of the presentation, a joint effort between Cascade and SE leadership to create a shared, full time instructor is under discussion. Additionally, we urge that you work closely with Cascade Campus leadership to determine the best path forward regarding the addition of a new full-time faculty.

Class size limits at the Sylvania campus should be reduced to 24 students in order to improve student success and retention, in order to be in compliance with the recommendations of the AAPT,

and to equalize the quality of Physics instruction at all PCC campuses by having lecture and laboratory courses taught by the *same* instructor.

We understood and appreciate the desire to reduce enrollment limits at Sylvania to be in line with limits throughout the district. We, also appreciate the benefits students may enjoy by having the same instructor for the lecture and lab. However, in review, during fall term 2009 Sylvania offered 3 Physics courses with enrollment limits of 48 (PHY 201, 211 and 212) with an additional 19 sections with limits of 24. In this instance, by offering one section each of 201,211, and 212 with limits of 48, access was given to students who, otherwise, may not have been able to enroll. For example, in PHY 201, even though the limit was 48, only 30 students enrolled. A separate section for those 6 students likely would not have been offered. Similarly, PHY 212 showed 28 enrolled with a limit of 48 and PHY 211 with 39 of 48. In all three instances, the labs associated with these sections were capped at 24 each, but likely were not full. A move in the direction you've recommended brings with it other complications, as noted in our discussions, most notably classroom space, potential need for additional qualified instructors and office space. For these reasons, it is important for the Division Dean and Faculty Department Chair to retain the option to offer sections with enrollment limits above 24.

It is the view of the Physics SACC that the addition of a full-time Physics instructor position at the Southeast Campus should precede the planned growth and development of Physics at that campus.

As noted at the end of the presentation a joint effort between Cascade and SE leadership to create a shared, full time instructor is under discussion. Additionally, we urge that you work closely with South East Campus leadership to determine the best path forward regarding the addition of a new full-time faculty.

Additionally, Laura Masey, Director Institutional Effectiveness, offers:

“The Office of Institutional Effectiveness will track former Physics students through the National Clearing House and provide feedback to the SAC regarding the transfer location (counts by individual college/university) of these students. The information will be available this summer.

Also, if the SAC will provide Institutional Effectiveness (contact Laura Massey) with the PHY 201 pre and post surveys, they will provide an item analysis of concepts (questions) most frequently missed to help determine if there were specific areas that continued to be challenges for students in the post test. While the pre and post test revealed promising results from other course comparisons, as noted in the report, the PHY 201 results indicate an "area that needs improvement." While assessment of outcomes is important, of equal importance is documentation of how the findings were used to improve teaching and learning.”

In closing, we want to thank you for a very thoughtful, well organized written Program Review and engaging presentation.

Administrative Response developed and submitted by Jeff S. Triplett in collaboration with other review team members.

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