Administrative Response to Program Review
Engineering (ENGR) Transfer Program
February 2018

On December 8, 2017, the Engineering SAC presented their Program Review findings to an audience of PCC administrators, community stakeholders, and others with an interest in the discipline. The presentation was informative and thought provoking, with engagement from students and a tour of facilities.

This Administrative Response will: A) note particular highlights of the Engineering program and Program Review; B) provide observations and recommendations; and C) provide the administrative response to the SAC recommendations/resource requests.

Noteworthy Efforts or Achievements

- A well prepared, organized, and engaging program review presentation. In this presentation, you effectively demonstrated the scope of your program, facilities, strengths, and needs. The inclusion of the student Q&A, with an opportunity for students to provide public comment/feedback, was a great way to show your commitment to truly reviewing your program and honoring the student role in that review.
- Faculty/SAC attention to supporting courses that align with University offerings such that the University's Accreditation Board of Engineering and Technology (ABET) accreditation is not impacted.
- Consistent updating of advising guides for students, which supports student success and completion.
- Commitment to equitable student success, evidenced through faculty offerings of Saturday lab (9am-1pm option for students to get tutoring/support on Saturday), faculty outreach efforts to MTH65 classes in an effort to diversify the program,
- Effective use of experiential learning and adult learning principles (e.g., competitions in miniature parachute designs, construction and implementation, egg drop, use of MakerLab, etc.).
- Faculty support of the Humanitarian Engineering Camp and other efforts to provide middle school and high school students exposure to Engineering and other college disciplines/programming.

- Proven commitment of PCC ENGR faculty and staff to consistently solicit feedback from groups inside and outside the college to inform course offerings and curriculum (e.g., changes to ENGR221, 222, and 223 based on OSU and PSU input, ENGR114 to align with PSU, ENGR105 to align with the transfer institutions, and ENGR101 lab to increase hands-on skills development).
- Thoughtful assessment work that has resulted in greater communication among faculty regarding the expectations of and for students.

Observations and Recommendations

- Continue work to make instructional materials available for all ENGR courses. We recognize that you made great gains since the last program review in accomplishing this in ENGR101.
- We acknowledge your concerns that the dual-assignment of faculty results in time commitments for Program Reviews being written every two to three years, attending multiple SAC meetings during in-services, and addressing multiple skills assessments each year. We encourage you to work with your Division Dean to brainstorm shifts in structure, resource allocation, or planning that could lessen the impact of these compounded demands.
- Identify and implement a SAC process for regular review of course outcomes in the ENGR Course Content and Outcomes Guide (CCOG)s. An expectation of the college is that the courses are reviewed at least every three years: "SACs shall develop and approve a Course content and Outcomes Guide (CCOG) for each of their courses. SACs shall review and, if necessary, update each CCOG at least once every four years so it reflect current PCC and Accreditation standards and practices." (Academic Policy Handbook S701: Subject Area Committees). The Engineering SAC should be mindful of this responsibility.
- The assessment section of your Program Review does not reflect some of the good work that the SAC has done in considering assessment over several years (more details of which were included in Annual Assessment Reports in 2010-11, 2015-16 and 2016-17). It would have been helpful to provide a more informative summary of both the methods and results obtained, so that the changes described have some context.
- Consider student feedback in program review presentation, such as:
    - Ways to use software more effectively as a teaching tool. Specifically, one student suggested shifting from a model of demonstrating a

specific action with the software and asking the student to copy that method/approach to a model where instruction discussed the standardards/applications for use of software in the field.
    - Moving from a model of memorizing syntax (which one student acknowledged could be googled at your desk in the real world) to a focus on application.
    - Consider coordinating scheduling with Calculus, Physics, and other departments ENGR students must work with to complete their degree/transfer path. As the college moves towards an annual scheduling model, this will provide more efficiencies in macro-level scheduling, however, you may consider reaching out to these departments in advance of the annual scheduling initiative launching to see if there are ways to work together.
    - Reassess ENGR lab hours. Consider whether surveying students could inform lab hours.
- Consider development of SAC-specific questions for Course Evaluations to inform equitable student success and assessment/refinement efforts.
- While it is clear that most of the ENGR faculty are participating in professional development and professional activities aligning with PCC's strategic intentions and commitment to Diversity, Equity, and Inclusion, we'd like to encourage more attention to ensuring that there is consistent application of culturally inclusive pedagogies in ENGR classrooms and that the SAC has established a shared understanding about diversity, equity, and inclusion which is applied when making decisions. Your Division Dean can assist in connecting you with resources and support in this area.

We are pleased with the many advancements this SAC has made since the last program review and with the commitment we see from your SAC to promoting student success and preparing students for transfer in your discipline. We urge you to continue to keep up the great work.

Administrative Response to Recommendations

SAC Related Recommendations

1. **Create Open Educational Resources**

We are in full support of your comments about the value of OERs to promote equitable student success. Please consider utilizing college support resources like

the Open Educational Resources Steering Committee and your fellow colleagues who have implemented OERs within their courses, as needed.

2. **Offer more classes in a hybrid model**

Online Learning is currently exploring ways to support hybrid models within the PCC system. Please work with your Division Dean to align with the work coming out of this important committee.

3. **Expand summer offerings.**

Please work with your division dean to explore possible changes to offerings and review enrollment data to inform decision-making.

4. **Increase student diversity.**

We are appreciative of the work you have done to enhance the diversity within your program thus far. This recommendation is in line with the college's commitment to equitable student success. As such, we hope you will continue to align your work with this collegewide commitment.

5. **Request tutoring funds.**

See response below in Administrative Support Related Recommendations #7.

6. **Larger computer room for better teacher / student interaction**

See response below in Administrative Support Related Recommendations #9.

7. **Increase advising options.**

See response below in Administrative Support Related Recommendations #1.

8. **Engineering image onto library computers**

Your Division Dean is already in consultation with Library personnel to determine whether SolidWorks software can be made available to students in the Sylvania Library (see below) and is working with IT to explore possibilities of providing a ENGR image on computers.

Administrative Support Related Recommendations

1. **Support for advising.**

While we are hopeful that the Oregon Transfer Bill (HB2998) will eventually result in clearer transfer pathways for our Engineering students, we recognize the current reality results in very complex advising for our engineering transfer

students with each University and each discipline having their own unique set of requirements. We also acknowledge the need for and benefits of dedicated/embedded advising support within the ENGR department. However, given the current budget climate and the college's current engagement in Advising Reform, we ask that you work with your Division Dean and Associate Dean of Students to establish enhanced support for ENGR students within General Advising. Conversations have already begun in this area and there is great interest in strengthening the partnership between ENGR and Advising.

2. **Formal continued support of the MakerLab Coordinator as a long-term position.**

The importance of this position is noted and we are pleased to now have a full-time AP serving in this role.

3. **Support encouragement for ENGR faculty to be part of the state-wide initiative to produce ENGR majors in the State of Oregon.**

Administration is very supportive of PCC faculty engagement in statewide efforts in this area. Please work with your Division Dean to assure PCC representation on state workgroups, where possible. Should Engineering be selected for HB2998 implementation, PCC will advocate for representation from our faculty to hold membership on the Unified Statewide Transfer Agreement (USTA) group for Engineering.

4. **Organizational acknowledgment that shows formal support of the ENGR100 and the PCC faculty in ENGR that serves as the point person for ENGR100.**

We recognize and affirm the value of ENGR100 within our system, especially in that it assists students in selecting career pathways within the Engineering field. If there are specific actions you believe would help to advance ENGR100 and/or the faculty supporting this course, please reach out to Division Dean and Dean of Instruction to discuss in more detail.

We also greatly appreciate the efforts that ENGR has made to outreach to HS students via ENGR 100, giving students an opportunity to explore this professional area. The Dual Credit office compensates PCC faculty for each new articulation (i.e., Course +HS Teacher) 10 hrs of special projects rate compensation for PCC faculty for each new to establish the alignment and any pedagogical imperatives, as well as 3 hours the 1st year and every 3 years thereafter for evaluation, and we very much hope that the faculty are availing

themselves of this resource. The rate of addition of new articulations does not suggest that additional resources (release time) are warranted at this time (2014-2015 - 8 teachers; 2016-2017 - 14 teachers; 2016-2017 - 14 teachers). However, if the SAC has plans to add many more, it would be appropriate to submit a plan outlining the additional time and support needed.

5. **An instructor image on ENGR Classroom computers that includes video capture software. Video capture software would help support the hybrid model the ENGR SAC wants to use in more courses.**

We recognize that technology is of critical importance in promoting effective pedagogy Integrating software into classrooms and/or including images on classroom podiums requires IT support and collaboration. Please work with your Division Dean to explore the viability of this request with our IT support team.

6. **SolidWorks in the Library in support of ENGR105.**

While we have only scheduled core classes at one campus, we recognize that this is a larger issue than Sylvania library alone. There may be significant hardships for some of our students to commute to Sylvania using public transportation outside of class time to access the engineering software, when they may live closer to another PCC library. As such, the Library is committed to partnering with instruction and IT to review specialized software needs and assess possible solutions such as virtual online labs or distributed licenses (1-2 in each computer lab or library). Please work with your Division Dean and Library Dean towards a solution that will benefit students and provide better access.

7. **There are no dedicated funds for tutoring ENGR students. In 2016-17 student tutors hours were paid through the HECC Express grant. Other years ENGR students haven't had access to tutoring. In fall 2017, the Student Learning Center hired student tutors who are ENGR students. While, this is tremendous there are still limited tutoring hours availability.**

Tutoring is an incredibly valuable resource that contributes to equitable student success. We recognize that the end of the HECC Express Grant has indeed dropped available tutoring resources, however internal funds for tutoring are quite limited. The Sylvania Student Learning Center coordinator is working closely with the ENGR faculty and division deans to create ENGR tutoring support for students. Limited general ENGR tutoring is available now through the SLC. The SLC coordinator will continue to assess utilization and adjust resources as possible within the SLC budget.

8. **The SAC has some data on retention for ENGR students. Through the HECC grant, there was a study on retention of ENGR101 students and the likelihood of those students returning. However, the data that shows persistence is harder to get. We do know that nearly 300 students take ENGR 101 each year. Unfortunately, we don't have a solid understanding of what happens to the students beyond this course. Access to more data would help us understand our program better to address shortfalls.**

There are mechanisms in place within the college to track students through ENGR classes. Please work with your Division Dean to submit a request to Institutional Effectiveness. PCC's engagement in the YESS framework recognizes the need to build a better data framework to these types of questions. We are working towards building a data framework that is more accessible to faculty and programs.

9. **Larger computer room for better teacher / student interaction. Our computer room has 24 seats. This limits the size of the classes we can offer. The room is also small for 24 seats. The current configuration has one large aisle with computer tables on the side. There is not a lot of space between the rows, which virtually limits faculty access to students who sit 2 or 3 seats from the aisle. A new, larger computer room would be ideal. However, re-configuring the space so there are 2 aisles instead of one may provide more access and meet the needs.**

At this time, we do not have a larger space available. Please work with your Division Dean to assess potential costs associated with a manipulation to this space to enhance instruction.

Closing

In closing, we want to again thank the Engineering faculty for sharing the results of your program review with us. We enjoyed learning more about the discipline, your successes and plans for the future. We look forward to supporting your ongoing work on continuous program improvement.

Administrative Response submitted by Karen Paez, with input from and on behalf of the Deans of Instruction and Dean of Academic Affairs.
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