Administrative Response to Program Review
Machine Manufacturing Technology (MCH) Program
March 2019

On March 1, 2019, the Machine Manufacturing Technology (MCH) SAC presented their Program Review findings to an audience of PCC administrators, community stakeholders, students, and others with an interest in the discipline. The presentation was organized, with a clear agenda and a tour of the shop.

This Administrative Response will: A) note particular highlights of the 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

- An effective program review document and presentation, highlighting the program, its accomplishments, and needs.
- Integration of guest speakers into the program review presentation, including students and advisory board members.
- Paring down of Dual Credit to six course offered in the Career Pathways certificates, so that motivated students can earn meaningful credit without being encouraged to take more credit than they should.
- Elimination and consolidation of numerous courses within the AAS degree and MCH certificates.
- Great success in securing student scholarships through the OCF Constanzo scholarship and National Science Foundation.
- Successful collaboration with management to secure new CNCs and manual lathes, as well as complete some bond-related updates to facilities.
- Migration of course material to D2L to provide easier access for students.

Observations and Recommendations

- While it was clear that the faculty leading the presentation have great understanding in industry and their role in supporting students entering the field, it was less apparent if there was an understanding of the educational and accreditation processes that are also important to the program review. We recommend continuous connection with fellow CTE program faculty (and their chairs) and ask that you attend a program

review for a similar program (i.e., DSL, AST, etc.) prior to your next program review.

- In regards to assessment:
  - The MCH SACs reflection on assessment of student learning as presented in the Program Review is very concerning. Assessment of student learning needs to be a priority even during changes in and faculty and leadership. The question of whether are our students learning what we set out to help them learn is central to teaching and has been an explicit expectation for programs at PCC for at last 10 years. From hereout, we expect that curriculum revision will incorporate assessment on the front end, built in by expressing course, degree and certificate outcomes in language that suggests assessment strategies.
  - One of the most important aspects of assessment is using the results to improve teaching and learning. The 2014 assessment project relating to "dialing in" a manual milling machine is a good example of making instructional changes to improve student learning (although the evidence of student learning was anecdotal both before and after the intervention).
  - The evidence that students are meeting your degree and certificate only referenced the projects and the three TSA courses, but did not describe the work or the relationship to program outcomes. The evidence of student attainment was offered in the CTE section specific to the TSAs. Since the assessments were evidently, conducted, the methods and results should have been straightforward to capture in the Program Review. It is not clear whether the TSAs encompass the total set of degree and certificate outcomes. The new CTE template for documenting assessment and reporting degree and certificate outcomes should help the MCH SAC organize assessment, but only if the need to do so is taken seriously. Accreditation does require that "the institution" *documents, through an effective regular and comprehensive system of assessment of student achievement, that "students who complete its education courses, programs, and degrees … achieve identified course, program, and degree learning outcomes."*
  - **Please provide an addendum to the Program Review describing each of the TSAs in some detail (i.e. what students are expected to do), showing how they align with degree/cert outcomes, describing how they are evaluated, and indicating how students**

fared in each one last year. This should be submitted by the end of spring term 2019.

- In alignment with the college's commitment to equitable student success, we'd like to request that you please review course pass rates by student demographics to evaluate opportunities for improvement or adjustment within your program.
    - [Course Pass Rates by Student Demographics - 3 Terms Trend- by Term Only - PDF tutorial](#)
    - [Course Pass Rates by Pass/No Pass and by Student Demographics - by Term or Academic Year -PDF tutorial](#)
- Noting your statements about the challenges of recruiting and maintaining a diverse cohort of ongoing membership in the Advisory Committee, we urge you to consult with your fellow CTE chairs (especially those in similar disciplines) to identify strategies for effectively recruiting and retaining membership, running meetings, and engaging industry stakeholders. The Sylvania Community Relations Manager would also be a helpful resource in strategizing ways to better engage industry partners. We also encourage you to assess whether the advisory board is representative of the workforce hiring student graduates. In addition, we've seen great success in those CTE programs that engage a range of small, medium, and large businesses as advisory board partners.
- While we were very pleased to see revisions to your curriculum coming through this year, we would like to emphasize the importance of ***ongoing and continuous*** curriculum revision. On an annual basis, you should be reviewing your curriculum, and revising as necessary to keep up with trends, new learning modalities, technology changes, etc. In addition, if a self-directed/paced learning approach is maintained, the SAC will need to do curriculum updates to ensure that the most number of students could be successful in these courses, incorporating necessary benchmarking into your courses throughout the entire curriculum.

We appreciate the advancements this SAC has made since the last program review and the efforts to create a more streamlined experience for students. We urge you to continue to put your effort and energy into enhancing your program in line with the college's commitment to opportunity and equitable student success.

Administrative Response to Recommendations

Recommendation: *Our industry is very dependent on technology. The successful graduates in our program are expected to program and run machines that we do not have. To be a more competitive program we would like to upgrade and modernize some of the machinery on the floor. Some attention needs to be given to our tooling as there is a fair amount of wear and tear that happens to old tooling. There is also new technology constantly being implemented in industry. Our students need to be aware of best practices that have changed with new technology.*

- **Response:** We recognize the importance of modernizing our equipment to provide the most relevant and real-world training experiences we can offer our students. Annually, there are funds available through Perkins equipment funding as well as through the campus one-time/equipment process. Please work with your division dean in advance of equipment request deadlines to present your proposal and to ensure your department has an up-to-date equipment replacement cycle inventory and order approved equipment purchases in a timely manner.

Recommendation: *There is also considerable room for filling gaps in learning and building out curriculum focused on smaller and more economical CNC machinery. Some examples are the CNC router, Tormach mini machining centers, and other similar equipment. This equipment could also easily dovetail with Design related instruction in the MakerLab while greatly enhancing the learning experience in that space.*

- **Response:** Please work with your division dean to flush out this proposal and ensure alignment with the [preliminary review process](#) and current PCC priorities.

Recommendation: *The College needs support by way of time and money, the necessary redesign and updating of existing curriculum, development of new program offerings, and the critically important purchasing of new equipment.*

- **Response:** We recognize the significant time and effort required to maintain and continuously improve a program, and we are grateful for the investments you have made. Please work with you division dean to discuss mechanisms for supporting ongoing work. However, here are a few related considerations:
  - [The Instructional Improvement Project](#) funds are available to support projects with broad curricular impact.
  - In addition to equipment duties included in the [faculty department chair](#) release and compensation model, the MCH FDC also receives

facilities points to support the additional duties required in overseeing the equipment and shop.

- ○ Your department has been assigned an [Instructional Support Technician (IST)](#) to support the ordering, coordination, and maintenance of equipment.

Closing

In closing, we want to again thank the MCH 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.

Kendra Cawley, Dean of Academic Affairs
Jen Piper, Dean of Instruction Southeast Campus
Karen Paez, Dean of Instruction Sylvania Campus
Cheryl Scott, Dean of Instruction Rock Creek Campus
Kurt Simonds, Dean of Instruction Cascade Campus

Note: Division Dean of Engineering & Industrial Technology, Sarah Tillery has also contributed to the responses provided herein.