

Administrative Response

Computer Aided Design and Drafting Program Review

January 22, 2016

We thank you for your dedication to your profession, your students and the community as you re-envision the Computer-Aided Design and Drafting (CADD) Program.

This administrative response contains 4 sections: 1) Noteworthy Efforts /Achievements, 2) Suggestions/Observations, 3) Response to Recommendations/Areas of SAC Needs and 4) Closing

Noteworthy Efforts/Achievements:

- Your continued work to align your Course Curriculum Outcome Guides (CCOG's) with compliance to American National Standards Institute (ANSI) guidelines.
- Expansion of the CADD Advisory Committee to include new external partners (Intel and Boeing).
- Plan to redevelop a one year certificate with an emphasis on design (product design and development) by embedding communication, computation and human relations into a 1 year certificate that incorporates real industry requested design projects
- Phone Interviews with last year's less than 1 year certificate completers and the firms who employ your students to determine their current employment status and using that student feedback to re-envision your CADD program curriculum.
- Future plans to incorporate certification testing to align with your curriculum revision plans.
- Recent Collaboration with Civil/Mechanical Engineering (CMET) and Machine Manufacturing Technology (MMT) to align your proposed 1 year certificate program as a "feeding mechanism" with their AAS programs.
- Willingness to redefine your curriculum and teaching methodology to respond to student skill development making students more employable and to meet industry needs based on feedback from your CADD Advisory Committee that includes some new members who want to see Technical Mathematics, Statics & Strength of Materials Design Concepts and Product Design & Development Fundamentals in your curriculum.
- Incorporation of green technology, sustainability principles and practices into your curriculum.
- Your plan to infuse Cultural Awareness and Self-Reflection Core Outcomes into CADD 1-year Certificate Program.
- Your participation in the Tech-Bridge: Linux Computer Family workshops that were held at the Southeast Campus in September and October 2015.
- Providing your students to solve real world problems through projects like the Furniture Repair Project and the Jewelry Fundraiser for the English for Speakers of Other Languages (ESOL) through the use of the CADD programs 3-D printers.
- Good Response rate 22 out of 30 students responded to your June 2015 graduates, even though only 5 are working in the industry with the remaining 17 were employed or attending college but not working in the industry.

Suggestions/Observations

- As was mentioned during the Q& A portion of your presentation, we saw a lack of focus on the Outcomes and Assessment section of your program review. The CADD SAC needs more specific focus on assessment of the student learning outcomes for the certificate, to document student achievement and to identify targets for improvements to teaching and learning. We recommend that you connect with your Learning Assessment Coach to explore how to demonstrate that your students are in fact learning what you say they are learning and at the same time how it can help CADD program faculty make improvements to your teaching. It is also worth noting that if CADD wished to become a Perkins-eligible program, Technical Skills Assessments will need to be developed and approved and results reported to the Oregon Department of Education every year, for every student, in addition to the focal outcomes documentation that PCC requires.
- As high schools in our District and outside our district (since we are one of the only CADD programs in the Metro area) develop maker spaces, we encourage you to continue to expand Dual Credit offerings. Specifically, Portland Public Schools is interested in opportunities to expand Career Pathways on-site and having High School students come to campus to complete Career Pathway Certificates. Please work with Kate Kinder on a potential partnership with CADD and PPS to identify how the Career Pathways program can support efforts to increase diverse high school students' interest in CADD career and education pathways. Many programs in Washington County and Columbia County would like to include CADD as part of their CTE programs of study. Some of those programs have recently been awarded CTE Revitalization Grants and have a design component to their manufacturing programs and would like to include CADD articulations as part of their curriculum, specifically Tigard/Tualatin and Gaston High Schools. Please work with Beth Molenkamp in the PACTEC Office.
- We encourage you to consider your plan to have one of your classes taught completely through Distance Learning either CADD 100 or CADD 255. Please work with Steve Beining, Distance Education program for consultation on on-line course development/design or support resources.
- As the new curriculum is developed, the SAC should evaluate if any changes in instructor qualifications are needed for these courses.
- You mention on page 13, that “The current staff works with a more diverse student population than they would encounter in an industry work environment.” As you plan to recruit for a future full-time faculty position based on a future faculty retirement, please work with your Division Dean and Human Resources to explore strategies to advertise this position to attract faculty applicants who are culturally competent who can teach an increasingly diverse student population. This could help diversify the industry work environment as well.

- On page 20, you mention that 3D Modeling classes have experienced declining enrollment. We encourage you to explore the cause of this trend based on when you offer the course, changes in instructors who teach the course, etc.
- On page 22, adding 3 credits to your program would make you eligible for Perkins funding, please work with Jan Volinski, to see if there is an approved Program of Study in the High Schools that would align with your proposed 45 credit, 1-year CADD certificate.
- Explore the possibility if Saturday course offerings could create opportunities to increase program enrollment.

Administrative Response to CADD Program Recommendations

1. Personnel Requests

In order to achieve the planned changes, the highest priority is to ensure a seamless transition to new faculty members. For successful implementation, it is recommended to continue with two full time faculty members and the current amount of adjunct faculty moving forward.

Response: Given the significant curriculum revision that will need to occur during remainder of the 16-17 academic year, we support your recommendation to hire a permanent full-time faculty member. Please work with your Division Dean and Human Resources to explore options. Since a full, open recruitment process was conducted to hire the one-year temporary position, Dr. Howard, Southeast Campus President would have to request that a direct appointment be granted and approved by Human Resources and the Office of Equity and Inclusion.

In regards to the other full-time faculty position based on a pending retirement, we support an out of sequence hiring process outside the block hire process, that would allow you to hire a faculty member who could begin teaching the new curriculum for Fall 2017. Please work with your Division Dean and Human Resources to review the instructor qualifications so they can be used to hire a permanent faculty member to replace the pending retirement.

Funding for faculty to spend additional time in developing the new courses is requested. This might include, but not limited to, summertime work compensation during the summers leading up to the Fall 2017 One Year CADD Certificate roll out.

Response: Please work with your Division Dean to apply for curriculum development funding that is available through the Professional/Organizational Development Office.

2. Student Work Study Opportunities

Strong support for students and learning is a goal of the CADD departments. As such, we request funding for more work study opportunities for students. These students would show high aptitude in coursework and would work part-time in labs and provide tutoring for students who need extra one-on-one help. This would be an opportunity for a student to gain related work experience, which has been identified as a weakness. Students contacted via surveys and phone interviews explained that not having any work experience was the number one reason for not obtaining industry related work.

Response: *Please work with your Division Dean and with Financial Aid. Many work-study jobs go unfilled and you may have experienced CADD students or students in Engineering who qualify for work-study jobs.*

3. Facilities and Equipment Requests

All current classrooms, facilities and equipment for the redesigned program are requested. As curriculum is developed, these needs may be redefined. This might include new classroom “design studio” style-layout to facilitate team learning and interaction. It is requested to have support for such new layouts from IT and facilities management. Such changes would require little to no additional funding, but rather utilize existing space and equipment in a reconfigured manner. There is no space in the computer labs to adequately make use of new technology such as 3D printing, laser cutting, or CNC milling. Resources need to be in place to support these areas.

Response: *Please work with your Division Dean and with FMS to explore how the space could be redesigned. Having your current CADD students or Interior Design students at the Sylvania Campus collaborate with CADD students who be an excellent project-based classroom assignment.*

The CADD program supports relationships with related programs at other campuses, such as CMET, Engineering, Microelectronics, Dental Hygiene, Allied Health and Welding. We would like to equip the CADD program with any of the needed resources to support these respective programs. The CADD program desires a strong relationship with the STEM Center Lab and obtaining blocks of time when CADD program students can use the facilities. Future CADD students will need a space to store, assemble and fabricate projects. Partnering with the STEM Center will build on synergies and provide the best outcomes for students and the community. This might include CADD students mentoring STEM or High School students as part of their respective projects. The specific course Exploring STEM with CADD would be a very good bridge for this relationship. As part of this course, desktop fabrication equipment such as a laser cutting machine and a laser scanner (for reverse engineering activities) could be co-purchased and improve the STEM Center capabilities.

Response: *Work with your Division Dean to request Capital Equipment funding for the Laser Cutting Machine and Laser Scanner as well as identifying physical space to store, assemble and fabricate projects.*

4. Non-profit Income Generation Opportunities

The CADD program believes faculty and students have skills that can generate income for the program. The CADD program would like to explore these possibilities once new courses are implemented and program redesign activities have stabilized. Local businesses may come to see the CADD program at PCC as a way to produce needed tools or equipment without the high cost of a manufacturing firm. This has the dual benefit of providing students with real-life applicable drafting and design opportunities as well as providing ongoing capital for equipment or facilities. This may require developing a class specifically for these tasks, which could also have an entrepreneurship component. When the class is completed, students could include specific examples of their work as part of their resume. This income would also contribute to the sustainability of the program.

Response: *There is no expectation that the CADD program generate program income, especially at the expense/time away from curriculum development and program redesign activities.*

Closing:

In Closing, we want to thank the CADD program faculty for sharing the results of your program review with us. We enjoyed learning more about your program, its successes and your plans for the future. We look forward to supporting your on-going work on continuous program improvement.

Administrative Response submitted by Craig Kolins, on behalf of the Deans of Instruction and Dean of Academic Affairs.

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