Administrative Response to Program Review  
Computer Information Systems (CIS) Program  
January 2019

On January 15, 2019, the Computer Information Systems (CIS) 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 very informative, with participation from all of the full time members of the SAC.

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

- A well prepared and organized program review presentation and document.
- Coverage of projected job growth in the field and attention/response to career trends in an effort to better prepare our students to enter industry.
- A very strong presentation of assessment work, including
  - specific examples of improvements to instruction based both on direct
  - assessment of student learning, reflection on potential causality (such as variations among instructors, and responding to results by re-thinking how critical skills are staged throughout the program
  - “closing the loop” with regards to oral communication (identifying a problem revealed by assessment, implementing changes to instruction, and re-assessing the same outcomes to evaluate the effectiveness of the changes.
  - looking at how changes affect student success in subsequent courses.
  - efforts to evaluate student-learning attainment disaggregated by different student demographic groups.
  - engagement in the college-wide assessments in the MSC and the college-developed Quantitative Literacy rubric.
- Demonstrated attention to equity – acknowledging that “who codes matters” and researching/implementing strategies for promoting inclusion
and equitable student success (i.e., adopting Python based on research suggesting it promotes better inclusion of women).

- Development of the capstone class, and employing that in identifying targets for improvement to teaching and learning.
- Commitment to meeting monthly as a SAC, with focused attention to and awareness of the importance of promoting active participation of PT faculty.
- Success in attaining status as a Center for Academic Excellence in Cyber Defense (CAE2Y).
- Integration of advisory board feedback in updates to the program, including the development of a capstone class with a focus on real world programming and agile methodology in a team based setting.
- Development of a video highlighting CIS students and their feedback about the program.

**Observations and Recommendations**

- In your presentation, we noted the use of *some* deficit-based language when discussing students of color and other underrepresented groups. We encourage you to consider the use of asset-based language when discussing diversity, equity, and inclusion, wherever possible.
- While it appears that the department has effectively utilized an advisory board to inform program updates, we encourage you to assess whether the advisory board is representative of the workforce hiring PCC 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. We also encourage you to consider how you can better utilize your advisory board to gather feedback on the efficacy of your program to prepare students to work in industry.
- Given that your program is listed as a program with fully-online degree options, we ask that you do some program mapping to ensure that fully online students can easily and successfully navigate through the online sequences towards completion. It appears that there may be gaps in course offerings, which could stall completion. This mapping exercise should also be applied for on-ground students. Your division dean can provide support with this process.
- While we are very pleased with your attention to data to inform student learning, we encourage you to consider the following when presenting such data:
The changes in demographics should be clarified. For example, the increase in female CIS majors between 2009 and 2018 is approximately 6 percentage points, not a 6% increase. It is likely significantly higher. For example, if the population of CIS students was 100 and remained the same between 2009 and 2018, female CIS majors would account for 20 students in 2009 and 26 students in 2018, which would be a 30% increase and remains a 6 percentage point increase. Raw numbers of total students per year would help provide a clearer picture. Range selection of the graph could better demonstrate the increases.

Providing percentage share of students doesn’t provide insight to growth or attrition of declaration of major without the number of students. The results can be from a decline of white students declaring the major, an increase of students of color declaring the major, or differing rates of increase or decrease in declaring the major. Without the annual numbers, the information doesn’t provide much value other than the proportion of the make-up of the CIS student body by ethnicity.

In addition, we recommend you consider the following enhancements in future reports:

- With regard to the opportunity gap, some time should be dedicated to providing your understanding of the causes of the opportunity gap as well as solutions to help mitigate or eliminate the gaps. As the information is presented, it could single out African-American students deficiencies without context. This could reinforce negative stereotypes of this subset of students all without actually doing anything to resolve the problem.
- More evidence could be provided for the conclusions made. For example, the relation of increased awareness of equity issues among faculty and program-level changes could be described with supporting detail.

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. We see you as strong leaders in assessment and truly committed CTE faculty. We urge you to continue to keep up the great work.
Administrative Response to Recommendations

Recommendation: Make the Employment Specialist position a full time permanent position again.

- Response: Sylvania leadership plans to extend the current temporary position into the next year as a 1.0 FTE. We recognize the value of the Employment Specialist in supporting your program.

Recommendation: Provide additional support for the Perkins adviser that supports Computer Technologies.

- Response: As the college undergoes a major advising redesign, advisor loads and assigned clusters will be assessed. We take note that the Perkins advisor in your area has many students to serve and this will be considered as we move forward with both advising redesign and the division realignment process.

Recommendation: Increase ethnic diversity and percentage of women in student population.

- Response: We are fully supportive of this recommendation. We ask that you work with your division dean to develop a proposed plan to enact this work. Our assigned Sylvania recruiters (Admissions & Recruitment Coordinators - ARCs), our community relations manager, your assigned employment specialist, and your assigned Perkins advisor are all partners and resources in this work. We also encourage you to consider how your advisory board can assist with increasing diversity in your program. This should be also be a consideration when recruiting new advisory board members.

Recommendation: Continue redesign of CIS degree as needed.

- Response: We are very supportive of continued updates and enhancements to the CIS degree and urge you to work with your advisory board, division dean, and PCC’s Degrees & Certificates to support this process.

Recommendation: Grow our cybersecurity program to meet local industry needs.

- Response: We appreciate the attention you have paid to building the foundation of a cybersecurity program, which we know to be extremely relevant in this time from your program proposal work and input from industry. We are committed to providing professional development and
other opportunities to support ongoing growth and refinement of the program. We also ask that you work with our your division dean, assigned Sylvania recruiters (Admissions & Recruitment Coordinators - ARCs), and our community relations manager to strategize about how to market the program to potential students.

**Recommendation:** Continue to fill all vacant CIS FT positions.

- **Response:** We recognize the challenges your program is facing with the resignations and retirements of long-standing, valued faculty. Currently, we plan to continue into next year’s block hire to fill additional vacant positions. At this time, given college-wide budget concerns, we are unsure whether we can fill all of the vacant positions. However, we will continue to discuss your personnel needs as we learn more about the budget climate.

**Recommendation:** Have an ongoing "Guest Lecture" series from people in industry targeted towards Faculty.

- **Response:** This is a wonderful idea and we are eager to learn more about this proposal. Please work with your division dean, DOI, and the Teaching Learning Center Coordinator to discuss your vision and ways we can work together to create a series that meets your needs.

**Recommendation:** Get BrightSpace and CourseLeaf (read access) for Dual Credit instructors so that they can collaborate on SAC course shells and get access to the latest curricular changes in our CCOGs.

- **Response:** All CRNs do have D2L access that needs only to be activated to be available to the instructor. To get a copy of one of CIS’s shells, the Dual Credit Instructor would contact the CIS Department chair to have the appropriate course shell moved into their CRN (equivalent to a “takeover” shell). Please confer with the Dual Credit office and Online Learning for assistance. Also, although instructors teaching F2F (including HS teachers) are not required to have specific training on D2L we recommend that the CIS faculty work with individual teachers to help them make best use of the platform and materials.

**Recommendation:** Provide direct access to select banner reports to PCC instructors so that they can better study and understand the demographic composition and success rates of students in their CIS classes.
● **Response:** As the college engages in our Yes to Equitable Student Success (YESS) work, we will have better access to the data you are requesting herein. For now, anyone in the department or division with banner access, can pull pass rates by demographics using this report:
  ○ [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](#)
Please make a request through your division dean for this information if you are unable to access it yourself.

**Recommendation:** *Professional development funding for faculty - required for our fast-paced field.*

● **Response:** We recognize the need for ongoing professional development to maintain expertise in your field. Please utilize the Professional & Organizational Development (POD) process as a starting point for accessing professional development funds. From there, you may work with your division dean to access funds through the Foundation, division accounts, or campus one-time expense opportunities.

**Recommendation:** *Considering the growth in the distance learning side of our program, increase support for CIS-specific distance learning computing resources.*

● **Response:** IT will work with CIS to determine the needs and requirements of the program. While the entire District has limits in budget, there is an understanding that some programs may have specific needs greater than the general needs of the college. IT will coordinate with CIS to meet requirements in the best manner possible given the limitations of budget.

**Recommendation:** *Provide better support from the Student Resource Centers and Counseling center for Online Learning students.*

● **Response:** Online learning is in the process of working with the CIS SAC to identify specific needs for online tutoring. OL is proposing the addition of the CIS discipline to the eTutoring consortium of which we are members. We encourage the SAC to continue to collaborate with OL.

We encourage you to reach out directly to the Student Resource Center coordinator and the Counseling to discuss other specific needs you see for your students to investigate possible options. Online Learning also
encourages campus support services to provide more flexible support for online students who cannot come to campus.

**Recommendation:** Pursue scholarship opportunities for our students (apply for grants such as C3P, SFS, S-STEM).

- **Response:** We are very supportive of the SAC working to pursue scholarship and grant opportunities to support programming and student success. Please partner with your division dean to brainstorm options and possible partnerships with both the Foundation and the Grants Office.

**Recommendation:** Increase media features on STEM and CIS students to encourage recruitments of diverse student populations into the program.

- **Response:** We have communicated this recommendation to the Sylvania Community Relations Manager, who works with a team coordinating media features on the PCC website and beyond. We appreciate the reminder of the value of this kind of feature in promoting diversity, equity, and inclusion.

**Recommendation:** Work more closely with transfer partners like Oregon Tech, Southern Oregon University (SOU) and possibly Western Oregon University Information Systems degree.

- **Response:** We are excited to see that your SAC is interested in pursuing closer relationships with our Oregon University System (OUS) partners. Please work with your division dean and the Dean of Academic Affairs (or designee) to explore opportunities for developing stronger partnerships. Novel or complex collaborations may require review by the Transfer and Articulation Partnerships Advisory Group (TAPSAG) before approval.

**Recommendation:** Increase articulation of CIS Dual Credit courses with four-year colleges so that CIS Dual Credit is viewed as a more viable option for four-year college-bound High School students.

- **Response:** We agree that it is appropriate to focus our Dual Credit offerings on courses that are most useful to students, and this position is supported by the Dual Credit office. With regards to transfer, we typically look at courses that transfer to PSU and those identified by The Oregon Council of Computer Chairs (OCCC) as applicable to the AAOT. We support the idea increasing Dual Credit articulation in these courses.
Recommendation: Engage in preferential hiring practices for student-tutors at SE, Rock Creek, and Cascade, or students who have experience in computer technology programs and a familiarity with CIS120/121 because of the centralization of the CIS/CS Tutoring Center at Sylvania. Most DL students also enroll on campus-based courses.

- **Response:** Please work with your division dean to call a meeting with SLC leaders across the college to determine an appropriate way to respond to the outcomes you are hoping to achieve in this recommendation.

Recommendation: Technology upgrades (trying to get grant funding, but no guarantees).

- **Response:** Please work with your division dean to identify the specific needs and costs associated. Depending on the technology required, these upgrades may be coordinated through IT. Please see attached response from IT for more information.

Responses to following recommendations have been provided by our Chief Information Officer, on behalf of PCC Information Technology department, in the attached document.

- **Recommendation:** IT should enable our education initiatives.

- **Recommendation:** IT should consult us when changing IT policies.

- **Recommendation:** Update computing resources every 2 years instead of every 4 years, as was agreed to at our last Program Review.

**Closing**

In closing, we want to again thank the Computer Information Systems 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 Business & Computing Albert Lee, and Dean of Distance Education Loraine Schmidt. Chief Information Office Michael Northover and his Information Technology team have also contributed to the program review administrative response in the following document.
CIS Program Review | IT Response

IT Division:

Client Services

April 2019
Background

Dr. Katy W. Ho, PCC Vice President, Academic Affairs provided an opportunity for Information Technology (IT) to respond to a recent CIS Program Review in January 2019. The CIS program is a department within the Business and Computing Division located on the Sylvania Campus of PCC.

Subsequent to the initial receipt of this document, Michael Northover, CIO met with the Dean's Council and discussed some of these issues. In addition, on Monday, April 15, 2019 a meeting was held between IT and CIS representatives, specifically to discuss computer replacements and enhanced support for the CIS server and network environment.

Scheduled follow ups to that meeting are:

1. Inclusion of CIS in a new computer replacement strategy working group
2. Meeting between IT Client Services and CIS faculty to confirm current computer requirements
3. Meeting between IT Infrastructure Services and CIS faculty to gather requirements and do a feasibility on creating an optimal network and server support environment for CIS students

We welcome ongoing direct engagement with CIS and other faculty departments so that we can continue to understand your challenges and improve our services. The best point of contact is the campus manager or the Director of Client Service, Terry Jolley.

The following is a synopsis of the IT related issues detailed in the review, along with IT responses.

IT Responses

Computer Equipped Classroom Hardware

CIS Review:

CIS computer equipped classrooms had their computers replaced in the Fall of 2018 with Dell Precision Workstations, model T3620 MT with a 6th generation Intel® Core™ i7-6700 Quad Core 3.40GHz, 4.0Ghz Turbo, 8MB, and NVIDIA® Quadro® M2000 4GB video card. They include 32GB (2X16GB) 2400MHz DDR4 UDIMM Non-ECC memory and an M.2 512GB PCIe NVMe Class 40 Solid State boot Drive.
They have an integrated Gigabit Ethernet NIC and both USB 2.0 and 3.0 ports on the front.

**IT Response:**
The above configuration was presented to the Business & Computing Division as an appropriate option for their requirements. In addition, it is proven technology that IT recommends for teaching environments that require enhanced technology to meet the demands of the program. As a strategic cost savings measure, standard configurations do not have antiquated media devices such as an optical reading\writing device, as the industry is moving away from this technology (most installations of software, music and other data are now available for download).

**CIS Review:**
*IT support continues to be a challenge. The stated goal of IT is to have all PCs repaired within 24 hours, but this goal has seldom been reached. Communication between IT and the large number of faculty who use the labs can be problematic, especially since the labs are used by faculty from several different departments. We have tried several methods of standardizing and centralizing the reporting and follow-up of computer repair, but there is still room for improvement. IT support has improved since our last program review which has improved the student experience. When workstations are unavailable students have to double up, instruction suffers.*

**IT Response:**
In 2017, IT published a Strategic Plan, which includes “Operational Excellence” as a strategic goal. Several improvements were made, including creating a new Director of Client Services role and consolidating all end user facing services district wide. In addition to organizational changes, IT strives to upgrade the skillsets of our technicians and we have invested in new technologies such as BomGar, the industry leading remote desktop support solution, Active Directory (Windows) and JAMF (Apple). As noted, our services and support have measurably improved and we continue to look for ways to enhance our services. IT uses a ticketing software system and a service desk to receive and enter calls that are dispatched to the appropriate service teams.

We are unaware of a service contract or service level agreement that indicates a repair should be completed within 24 hours. However, when staff and faculty
consistently utilize the Service Desk to report an issue (i.e. not calling a technician directly) we are able to use the system to ensure requests are monitored and provided in a timely manner, consistent with this service level.

We address classroom down reports with urgency in order to provide timely service restoration. A “classroom down” ticket has a priority level that ensures IT responds immediately by directing resources to respond, investigate and resolve the issue. Please note that there is a difference between response time to assign resources to an issue and the time it takes to investigate, engage other support teams and to resolve the issue or issues. Issues can vary in complexity and may require different teams to resolve which may extend the service restoration of a given system.

Based on data gathered from our service desk ticketing system from 2014 to 2018, resolution times are consistently improving (see table below). In the last two years we have deployed remote desktop management software, consolidated call trees and enhanced the content and procedures in our ticketing system. As mentioned above, contacting the Service Desk and registering a request helps us best deploy resources and will always result in faster resolution time than calling a technician directly. Also, we can’t manage what we can’t measure – so having all service requests registered in our system is critical.

We continue to partner with Business and Computing to improve our services and to better understand student and faculty concerns and requirements. IT and Business & Computing have consistently met on a monthly basis to discuss projects and service issues that impact faculty and student success.

**Resolution Time History**

<table>
<thead>
<tr>
<th>Medium Priority Ticket Resolution Time: 5 Year</th>
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<tbody>
<tr>
<td><strong>Snapshot</strong></td>
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<tr>
<td><strong>2014</strong></td>
<td><strong>2015</strong></td>
</tr>
<tr>
<td>Average Days Opened for 6 Tickets</td>
<td>Average Days Opened for 10 Tickets</td>
</tr>
<tr>
<td>5 days</td>
<td>12 days</td>
</tr>
</tbody>
</table>

Tickets may sometimes be intentionally left opened to ensure service is restored or to receive additional feedback concerning resolution.

**CIS Review:**
During our last program review we made the case that we need more current computing hardware in our classrooms than is generally necessary for programs that don't specialize in computing, that a replacement cycle of every 2 years rather than every 3 years is more appropriate. The program evaluators agreed. Unfortunately, due to changes in the IT department there was a miscommunication of this need, so instead we waited 4 years before the computing hardware was updated. Poor performance computers result in poor results for our students.

**IT Response:**

In 2016, IT began to work with divisions to better understand program requirements as well as made decisions to acquire specialized computing equipment based on program requirements instead of using a “one model fits all” strategy. Also, recent developments and improvements in the sourced components of our hardware allows for a longer life cycle for the technology that we are leasing or purchasing. We have recently worked with CIS to upgrade the majority of CIS computers to high-end, engineering grade configurations (as described in the first section).

Establishing an optimal computer configuration on an optimal replacement cycle is clearly critical for CIS. However, IT is not currently funded to meet this challenge, nor do we necessarily agree with the rationale for a 2-year replacement cycle given the current state of computer technology.

As mentioned in the introductory “Background” section, IT and CIS have agreed to meet to fully vet the ideal configuration and replacement needs of the department.

**CIS Review:**

One of our challenges is that CIS computing students need access to the inner workings of their computers in order to learn how they work. Unfortunately, the IT department strives to limit student access to the inner workings of computers in order to improve security and limit a student's ability to cause computer and network problems. These two needs are at odds with one another. Students in the CIS department need more access to computer settings and their configuration. Without this access we have little need for the computers at all.

**IT Response:**

IT strives to balance the regulatory needs of information security compliance with support for an optimal learning environment. In implementing some needed programs over the last couple of years, we have on occasion needed to
adjust course. We encourage open dialogue and a full partnership with faculty to resolve any issues.

In the Fall Term 2016, as IT was implementing the Microsoft Active Directory (AD) platform, we unintentional disrupted several classrooms (TCB 307,308 & 309) during week 3 of the term (Ticket | 55316). Once reported, we responded and provided the necessary access within 1 day of ticket creation. IT worked with the division to ensure appropriate access levels were granted to faculty (Ticket | 52865).

We are not aware of any issues at this time, but if there are impediments to student success we encourage faculty to call the Service Desk so that we can quickly resolve the issue.

Our support teams would welcome any written specifications for classes that need special access to computer internals, so that we can design a classroom environment that meets the needs of faculty as well as the constraints of maintaining the integrity of PCC's technology infrastructure.

**Virtual Classroom**

**CIS Review:**

*We also have two virtual database servers supported by a combination of PCC’s IT department and faculty. This shared support model has improved significantly since our last program review. These database servers make it possible to teach our database classes.*

**IT Response:**

In the meeting of April 15, it was discussed that IT is in a good position to provide value added services in support of the CIS network and server needs. IT director of infrastructure services will be meeting with CIS faculty to document CIS requirements for a “best in class” teaching environment and discuss potential options for support. This may result in eliminating 3rd party vendor support and direct student costs. More to follow...

**Recommendation: Faculty**

**CIS Review:**

1. *IT should enable our education initiatives*
2. *IT should consult us when changing IT policies*
3. **Provide direct access to select banner reports to PCC instructors so that they can better study and understand the demographic composition and success rates of students in their CIS classes.**

**IT Response:**

1. **IT should enable our education initiatives**
   This is the primary goal of the IT department. IT will continue to partner with the division in order to align with the division's educational initiatives. However, we require involvement and participation early in the process so that we can work to provide appropriate solutions. In addition to solution design, testing and deployment, we need lead time to deploy resources. In order to provide services, IT sometimes has to engage multiple teams that may already be involved in priority related project work. IT has a new Project Management Office (IT PMO) and within this office, IT facilitates the project intake process to collaborate with all stakeholders in order to obtain sponsorships, approvals, human resources and budget to implement a project. The goal is to provide an IT Portfolio that is accurate, visible, and transparent in order to make data-driven decisions and consistently meet client expectations. We encourage the CIS faculty to engage with this process and enter project requests early so that the appropriate resources can be aligned successfully.

2. **IT should consult us when changing IT policies**
   Revisions to both the Information Security Policy (ISP) and Acceptable Use Policy (AUP) have been vetted in the last year through the College Policy Advisory Council (CPAC) process - which includes mandatory vetting by the EAC and a 30 day public comment period. These revisions incorporate direct stakeholder feedback and include a new sub-policy granting certain exemptions for “sandbox” environments.

3. **Provide direct access to select banner reports to PCC instructors so that they can better study and understand the demographic composition and success rates of students in their CIS classes.**
   At PCC, reporting has historically been the domain of Institutional Effectiveness. IT has never had a “business intelligence” capability and is not currently funded to support these kinds of services. IT has no objection to giving access to any existing Banner reporting to faculty, but this should be at the direction of academic affairs or student affairs – so that there is consistency in the reporting available to staff across the district. We also believe that the premise that such reports actually exist in Banner is false.
Banner’s reporting limitations are well known, which is why the college adopted the Argos platform to create customized reporting.
That being said, improving faculty reporting is a primary focus of the YESS data team, so our best recommendation is to engage with that team so that requirements for needed reporting can be documented and the appropriate solutions developed.
IT has proposed several strategic solutions for supporting timely, accurate and relevant “self serve” reporting. However, these involve large scale strategies such as replacing Banner and implementing an enterprise scale data and reporting platform. Funding is not currently available for these initiatives.

**Recommendation: Facilities**

**CIS Review:**

*Update computing resources every 2 years instead of every 4 years, as was agreed to at our last Program Review.*

**IT Response:**

Addressed in earlier comment. A new “Computer Replacement Working Group” is being formed and Michael has committed to reserving a seat for CIS.

[1] an existing