

Annual Program Review: Information Technology

Review time period: July 1, 2020, to June 30, 2021

Submittal Date: 04/05/2022

1. Purpose of the Program

- a. State the purpose of program, area, or unit and how it supports the College Mission.
- The Palo Verde College Information Technology Department continues to provide secure, scalable, and integrated technology solutions that take advantage of economies of scale for successful implementations, professional development, and adoption of campus technology solutions.
- b. How does the program, area, or unit support the College Mission?
- The PVCC IT is committed to providing the most efficient and secure up to date technology possible to support staff, faculty & students to be successful and achieve their personal and professional academic goals.

2. Population(s) Served

- a. Describe the populations served by the program, area, or unit, identifying special populations, if any.
- Three physical locations: Blythe Main Campus, Needles Center, Child Development Center.
 - Students, faculty, adjunct faculty, staff, outside agencies through system integrations, the public and community members making use of campus facilities/web resources/communication systems.
 - To a lesser but growing extent, correspondence students, incarcerated students, online students, and off-site adjunct faculty members.
 - Disabled students through assistive technology
 - Public and outside agencies via college website and communications services
- b. Describe other populations that should be served by the program, area or unit and identify plans to implement.
- We would like to offer a better educational experience to remote and incarcerated students.

3. Accomplishments in Achieving Goals

- a. List area-related Strategic Planning Goals and program, area, or unit specific goals, and describe progress in achieving each goal, strategy, objective, and appropriate task during the review period.
- Strategic Planning Goals:

Task 4.4.1.1: Technology department to include feedback from appropriate committees to determine future course of action and investment of resources	PVCC web site and Canvas Web portal have been moved to Azure cloud to provide a 24/7/365 availability and increase uptime to a stable 98%
Task 4.4.2.1: Discuss the parameters of operational effectiveness in the Technology committee and their measurement	Continuing communication and implementing SLA, with application dashboards to monitor effectiveness

Department Goals:

- Add redundant internet at Needles location for DR/BCP planning.
- Add DR/BCP VM hosts in Needles location
- Implement and setup monthly vulnerability scans with Tenable provided by the Chancellor's office.
- Implement off site/cloud storage to support Backup and Retention policy
- In process of migrating phone system and IM from EOL/EOS Microsoft Skype for Business to Microsoft Teams.

b. Explain modifications, if any, of program, area, or unit-specific goals for the upcoming year.

None

4. Service Area Outcomes (SAO)

a. Revise if needed and provide metric data for Service Area Outcomes in the area or unit.

Service Area Outcome	Metric
Information Technology/SAO #1: The IT Department will provide ongoing support regarding the usage and proper functioning of the technology resources that support District and instructional operations.	The number of helpdesk support tickets opened/closed within SLA time period. Uptime of campus Network should be above SLA 98.99%
Information Technology/SAO #2: The IT Department will maintain appropriate and current technology resources for the District in accordance with a standardized replacement methodology.	The percentage/number of desktop computers, servers, network/infrastructure devices replaced or upgraded/refreshed within the annual review period. <i>See detail table provided in Section #8.</i>

b. What changes and initiatives were undertaken during the review period to improve SAO outcomes?

- Few of the changes we intended to make were made due to the demands COVID placed on the department. Monthly scorecards and SLA trackers are reviewed to track ongoing SAO's

5. Strengths, Weaknesses & Accomplishments/Activities

a. List and comment on the major strengths of the program, area, or unit.

- We have replaced our traditional VPN with Zscaler ZPA for easier user remote access to internal resources and applications.
- Added Zscaler ZIA for internet security to all district laptops.
- Adapted to COVID by significantly increasing our remote learning and employee access capabilities.

b. List and comment on the major weaknesses of the program, area, or unit. Discuss gaps or issues identified in section 4 and propose solutions.

- Disaster Recovery/ BCP capabilities are being planned and designed.
- We currently back up critical files and store them both on and off-site, but we do not have a "Disaster Recover Site" to maintain the continuity of business in the event of the total loss of the main server room or Administration building. We will be building a "Cold" (the normal state is off) standby recovery site in both Microsoft Azure and at our Needles location.
- Migrate off of EOL/EOS Skype for Business to MS Teams

c. List activities and discuss accomplishments during review period.

See attached Information Technology Board Reports for details on activities.

6. Human Resources and Staff Development

a. Provide current organization chart of the program, area, or unit, showing key functions and responsibilities.



There is a Help Desk Tech I located in Needles, but organizationally this is listed in the Needles organizational chart.

- Director of IT
 - Plan, organize, control, and direct the activities and operations of the Information Technology Department; evaluate, develop, modify and implement information systems standards and procedures; establish procedures for the maintenance of the District's database integrity.
- Web Service/Network Specialist
 - Website
 - Phone system
 - Disaster recovery
 - Network Equipment
 - Servers
- Network and Systems Security Specialist
 - Network Admin
 - Security
 - Servers
 - Network Equipment
- PT Helpdesk Technician
 - Helpdesk
- Network Technician II
 - Helpdesk
 - Network Technician
- Helpdesk Technician
 - Helpdesk
 - Purchasing

b. Are current management and staff adequate to perform functions and responsibilities satisfactorily and to achieve program, area, or unit goals? Explain.

It is unknown if current management and staff are adequate because we do not know what the "New Normal" after COVID will be. As staff and students return to on site learning, current IT staffing is very strained and insufficient because of all the rapid changes due to COVID. Current staffing is not adequate to support the Performing Arts Complex or the new athletic program's events, e.g., basketball games, etc.

c. Describe specific professional development activities in which program, area, or unit members participate and explain how such activities benefit or enhance the program and support and facilitate student learning.

- We subscribe to an online training service that offers live online classes as well as self-paced recorded classes.
- The goal is for each team member to spend 10% of the workweek in training.

d. Describe areas of unmet professional development needs among personnel in this program, area, or unit, if applicable, and outline plans to address these needs.

- We almost have sufficient staffing to meet the day-to-day tasks, but current staffing levels make it very difficult to allocate time to training.
- Increase departmental cross-training.

e. Describe organizational changes that would improve program, area or unit performance. Provide timelines for the achievement of such changes and describe measures that assess the effectiveness of such changes.

- Changing current half-time Help Desk position at the main campus into full-time would help staff the needs of the Performing Arts Complex, the athletic program's technical support needs and faculty and staff training. Making that position full-time would also allow for more training time for the IT team members.

7. Facilities

a. Are current facilities adequate to support the program, area, or unit? Explain.

- The current IT staff workspace should be relocated to a larger room to provide more staff space
- MDF/MPOE room needs to be properly protected from overhead water pipes

b. Describe plans for future changes to support facilities.

- Move more to the cloud and perhaps SAAS providers to provide level 1 support.

8. Technology and Equipment

a. Is the current technology and equipment adequate to support the program, area or unit? Explain.

- The District will need to increase spending on cybersecurity, online education, a remote workforce. If the adoption of additional technology continues, we may need helpdesk staff just for faculty and students.

- b. Describe plans for future changes to support technology or equipment.
- Move more to the cloud.
 - Natural gas-powered generator for longer data center runtime during power outage. Current run time on battery backup systems only provides time for system shutdowns. Many services require 24/7 availability, such as email exchange, college website, online registration, Canvas online courses system. A generator would enable these systems to remain available even during extended outages at the main campus.
 - Azure disaster recovery site – enabling rapid fail-over to cloud copy of critical systems. In the event of extensive damage to equipment or primary campus facility, these cloud replicas could be quickly switched on for better business continuity.
 - More security cameras.

9. Financial Resources

- a. Provide an appropriate financial report for program, area or unit during reporting period. Explain any significant deviations from previous reporting period.
Budget Code MIS

Budget Code	MIS	
2020-2021	Budgeted	Expended
Salaries (1000)	\$509,701.75	\$438,504.60
Benefits (2000)	\$233,580.11	\$202,704.15
Office Supplies (4550)	\$239.75	\$239.75
Copying (4556)	\$62.82	\$62.82
Computer Service Supplies (4570)	\$23,099.04	\$23,099.04
Other Supplies (4590)	\$721.75	\$721.75
Postage (5045)	\$10.10	\$10.10
Travel (5211/5220)	\$113.12	\$113.12
Professional Growth (5222)	\$1,247.99	\$1,247.99
Water (5530)	\$550.00	\$317.95
Contracts (5620)	\$541,398.57	\$529,831
Site Improvement (6120)	\$0.00	\$28,519.49
Instructional Equipment (6491)	\$7,468.79	\$4,763.79
Non-Instructional Equipment (6492)	\$50,317.00	\$55,660.31
Total	\$1,368,160.79	\$1,285,116.16

- b. Describe whether the current budget is adequate to carry out the responsibilities of the program, area or unit or operation.
- It is difficult to determine if the current budget is adequate to meet current ongoing needs because of COVID. 1. What is a temporary increase in spending, and what will be ongoing? 2. How much support will faculty need as online education expands? 3. What new apps and services will be needed for remote workers and online education? The need for a backup generator remains.
- c. Describe plans for future budget changes, if any.
- Request increased funding for cybersecurity.

10. Four-year plan

a. Place future request for resources (human, facilities, technology & equipment, and financial) in a four-year matrix to facilitate future planning.

			2021-22	2022-23	2023-24	2024-25
Future Area Needs	Human Resources		N/A	N/A	N/A	N/A
	Fiscal Resources		Increase Cybersecurity funding.	Increase technology refresh budget by 50% Increase Cybersecurity funding.	Increase Cybersecurity funding.	Increase Cybersecurity funding.
	Physical Resources		Backup power generator. More security cameras.	More security cameras.	More security cameras.	More security cameras.
	Technology Resources		Azure disaster recovery site. Better Endpoint Detection and Response	Move more to the cloud.	Move more to the cloud.	Move more to the cloud.

Board Reports

August 2020

- Worked with Crystal to resolve Adobe licensing issues.
- Server updates
- Installed new printers in student services and business office
- Moved and/or set up new offices for employees
- Installed webcam for all counselors/ed advisors for Zoom and other video meetings.
- Configured new computers for Scott Peterson's classroom.
- Installed new high-performance desktops in Scott's 3D printing classroom.
- Installed new uninterruptible power supplies (UPS) in our main server room. An UPS keeps servers running through short power outages.
- Helped set up new curriculum website.
- Created new faculty and staff accounts.
- Lots of HelpDesk and other related issues.
- Enhances Office 365 "Conditional Access." This adds more conditions to who and what can access our Office 365 email and other services. This will make it more challenging for hackers.
- Worked with electricians and suppliers for the new CS conference room

September 2020

- We are migrating faculty from desktops to laptops with docking stations as needed. To avoid doubling the district's expenses and man hours, when a faculty member requires a laptop, we exchange it for their desktop. When the laptop is in its docking station in the user's office, it enables them to use a standard keyboard, mouse, and monitor like they are used to. By pressing one button on the docking station, the laptop will disconnect, and they can easily switch to remote working.
- Received more refurbished laptops and are preparing them for deployment.
- Moved all the HR & Business office employee's IT equipment to their new area on the second floor of the CS building.
- Moved other faculty and staff (Maria Lopez, Victor Hernandez, Theresa Cicci, and others) to new offices.
- Resolving student issues with our learning management system.7
- Working to move some of our website to the cloud. Having our website in the cloud will increase our uptime dramatically and allow us to post notices on our website even when the main campus has no power or internet.
- Server security updates.
- Process website updates.
- Setup new faculty computers and accounts in our domain and online services.
- Testing an electronic document signing service for Admissions and Records (A&R). This will allow A&R to send documents over the internet and have the recipient sign them with a legally binding digital signature.
- Faculty laptop updates. We have all faculty laptops return to IT on a regular basis to updates and maintenance.
- In the process of handing out the Foundation laptops to the recipients.
- Increasing security across the enterprise. Mainly focusing on the desktops this month.
- Increased security in our email and online document and storage systems.

October 2020

- We worked with a consultant to tighten firewall security rules and policies. (The firewall is the primary security device protecting us from the bad guys and bad stuff outside our network.).

- We are working on having all or part of our website in the cloud. This way, when the main campus goes down, or our link to the world is down, people will still be able to see our website. Housing our website in the cloud will resolve many issues. For example, before, if we did lose power at the main campus or the main server room, we could not post a link on our website because the website is here on campus and would also be down. power, or our internet link goes down (and it does a few times a year) we can post
- Replaced the system that contractors and consultants would use to access our network remotely to work on our programs, with a far more secure Virtual Private network system.
- Set up web meetings for various groups
- Distributed foundation laptops and work with the recipients to install and learn Office 365.
- Worked with IEC to show them how to use Canvas
- Worked with Instructors on how to use Canvas
- Worked on ordering items on as needed
- Worked on getting laptops setup for faculty to use for remote work
- Assisted staff and faculty when issues came up with remote working
- We are continuing to roll out better antivirus and antimalware to all servers and desktops.

November 2020

- Because our web server was hosted at our main campus, when the main campus lost power or our internet connection was down, our website was also down or inaccessible. As such, we could not post updates for the students, staff, and the public. To alleviate this gap in the system, we just finished moving our website to an off-site service with an uptime record of 99.9%. We also moved the “workbench,” so to speak, (where the website is created and updated) off-site as well. Now, PVC’s main campus can go completely dark, our website will still be up and running, and we will be able to update it from anywhere.
- Because some colleges have recently been victims of Ransomware (and paid over \$1,000,000 in some cases), the number of attacks against Palo Verde College has increased significantly. The hackers may be thinking; if a few colleges paid the Ransome, they’ll probably all pay. We are evaluating additional email security services to augment our current email security. This will reduce the amount of Spam and Phishing emails we have been receiving.
- We started implementing an advanced cybersecurity monitoring system that aggregates all PVC on-premises system activity as well as PVC cloud activity. The system monitors millions of events per minute and will alert us to anomalies that may need attention and will take action for some events. This system is like placing 100s of tripwires all over our network.
- Setup a new high-speed printer for student services.
- Creating a plan for the next video security project.
- Training our new student worker

December 2020

- We have increased cybersecurity in several areas. Some of these projects have been announced in their email. • Added seven more video security cameras.
- We are continuing IT training for all members.
- We updated all of the main hardware that runs the district’s network.
- We have worked with contractors on the new CS conference room.
- Still working with Corporation for Education Network Initiatives in California (CENIC) to increase PVC’s internet speed up from 150 to 10,000 (10G).

January 2021

- Higher than usual student and faculty issues with pvc-service and canvas
- Two new areas on our PVC website: CalFresh Basics and Fresh Start Workshops

- We upgraded the servers that backup all the other servers to the latest backup software and operating system.
- Backup system audit (removed old servers and added any new) and make sure rebuilt servers were backing up normally.
- New cameras deployed; one 360-degree camera at the top of the stairs in the CS building, another 360 degree in the library storage area, four cameras at the top of the stairs outside the library back door, and a 360 degree camera inside the library back door area.
- We are evaluating:
 - New security cameras.
 - Additional storage for the security video recordings.
 - New, more secure type of backup hardware and software.
- Almost finished implementing the mobile COVID messaging system for HR.
- Tightened remote access security for all the additional remote access users.
- Work on tenable scans and vulnerabilities
- Set the Wi-Fi system to automatically disable itself outside of business hours.
- Tested the technology in the new conference room in the CL building.

February 2021

- The Appian app is now integrated with the district's systems, so the students can have single-signon.
- Tightened VPN security taking advantage of new security features.
- We are working with an application to find and remediate vulnerabilities across the network.
- Completed updates; all 110+ servers are 100% up to date with the latest patches.
- We are now automatically disabling Wi-Fi during off-hours to reduce our attack surface. Turning Wi-Fi off after hours helps reduce "Wardriving." Wikipedia's definition is. "Wardriving is the act of searching for Wi-Fi wireless networks, usually from a moving vehicle, using a laptop or smartphone. Software for wardriving is freely available on the internet." Most do this for free WiFi, but others use it to try to break into the network or use it to perform illegal activities on the internet anonymously.
- We had a few meetings with backup system vendors for a new backup system. We are still evaluating new backup systems vs. staying with what we have.
- Readyng student laptops for the loaner program.
- Refreshing employee laptops as employees bring them in.
- Two employees requested laptops and were issued one. All employees that have asked for a laptop received one.
- Provided training for using the district's phone system from home.
- Provided training for AdobeSign to employees that requested it.
- Assisted staff and faculty with remote work.
- Moved staff to new office locations for social distancing.

March 2021

- Working on getting Scott Peterson's students remote access to his classroom computers from any device, e.g., PC, Chromebook, iPad, etc. Then, even underpowered or incompatible devices can access the classroom desktops remotely, just like they were sitting in the classroom.
- Worked with contractors deploying wiring for additional security cameras on the bridge.
- Server updates can access the classroom desktop and use them like the student was sitting at the desk.
- Training new Helpdesk Technician employee Miguel Cervantes.
- Adobe Sign training. It was also recorded for those that could not attend.
- Website updates.
- We are working with Minolta to resolve copier issues. They are sending out a technician.
- Working on finishing the conference room's last details; scheduling panels and phone.
- Working on a new internet circuit for the main campus. Our speed will go from 150 to 10,000.

- Working on the voicemail issue with Microsoft Support level II now.
- Received more student loaner laptops, prepared them, and delivered them for distribution.
- Replaced four uninterruptable power supplies for servers.

April 2021

- We finished scheduling panels as well as the audio and visual for the new CL conference room.
- We finished the installation and configuration of five new security cameras on the bridge, including two license plate capture cameras.
- We hired a replacement for Lamar. He starts on the 24th of this month.
- Crystal had unraveled the Frontier internet mess. It looks like they will have better internet very soon.
- We are working with the prison to resolve IEN issues.
- We are almost done with COnexED for student services.
- We are doing the prework for the deployment of a new phone system.
- We are installing new desktop and server security.
- We finished testing student email.
- Remote access is not operational for Scott Peterson's lab for his students.

May 2021

- Started training replacement for Lamar Arnau, Tim Slogan, our new Network & Systems Security Specialist.
- Conference room phone and scheduling are basically done – just waiting for the new panel. • Working with Biju on a new Program Review for the website.
- Working with Jaclyn & Esmerelda on the new Puente website.
- Helpdesk system is back online and processing helpdesk requests again.
- Resolved numerous server issues with this month's Microsoft updates.
- Needles visit. We have resolved numerous phone and other issues.
- Resolve IEN server issues the prison was having with their Canvas.
- Installed and setup software for Scott Peterson's classroom remotely.
- Installed ASE testing software in CS234 for Biju
- Migrated the district's equipment inventory system to a new system for the business office.

June 2021

- Created a system for the prison proctors and instructors to access internal student information.
- Training new employees.
- Helped ready the PE building for graduation.
- Helped ready PAC for the EOPS awards ceremony.
- Resolved numerous issues from this month's Microsoft updates. Some problems cause significant downtime for the district.
- Deployed a better security camera recording system for the old cameras.