Sacramento City College
Strategic Planning System
Cross-Divisional Program Plan

Planning years: 2023-2026
Plan Type: Program Plan
Planning Area: Information Technology
Primary Division: Information Technology & Media Services Division
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SECTION I: OVERVIEW & REVIEW OF PREVIOUS ACCOMPLISHMENTS

A. PROGRAM DESCRIPTION

Information Technology is a critical college resource supporting the achievement of student learning outcomes, student success, and college strategic goals, as well as supporting the effective delivery of college programs and services. IT provides services such as computer replacement and maintenance, software licensing and installation, network infrastructure assessment and improvement, and server replacement. The department also secures internal resources, in addition to supporting other student and employee technological needs.

B: REVIEW OF ACCOMPLISHMENTS OVER THE PREVIOUS PLANNING CYCLE

2020-2023 AUO and SLO Assessment Results			
College Strategic Goal	**Administrative Unit Outcome (AUO)/Student Learning Outcome (SLO)**	**Assessment Measure/Target**	**Outcome**
A2	AUO #1: Explore issues associated with making school-owned portable technology available to students to promote success but address issues of security and management.	**Target:** Work with available campus programs to determine their requirements for making laptops and/or tablets available to students. **Baseline year:** 2020-2023 **Measure(s):** Purchase requests, Jamf MDM usage for Apple products. **Data Source(s):** Purchase requests and items received.	The pandemic caused a huge upswing in the purchase of technology for students. Chromebooks (1,123), hotspots (243) and laptops (40 high-performance loaner laptops for CTE students). Distribution of the devices were handled by LRC, IT, and other departments. For security measures, District Anti-Virus,

			Chrome device management, and Jamf management tools were all used.
A2	AUO #2: Facilitate student-owned computers in labs and classrooms, including access to file servers and printers, while protecting the security of college technology resources.	**Target:** Increase access to college IT resources by supporting students with their own computers in classrooms and labs wireless printing in computer labs. **Baseline year:** 2020-2023 **Measure(s):** Number of computers accessed by students in the form of student and lab computers **Data Source(s):** Records reflecting the number of computers in production, in labs, and the number of computers given away or loaned to students and employees; VDI server logs	The number of laptops available to the students via Chromebook projects, laptop loans, and lab computers on campus have increased student computer accessibility. Also, the expended use of the VDI OpenLab increased access to hardware-specific programs.
A3	AUO #3: Increase access to college information resources for end users with mobile devices both on and off campus.	**Target:** Ongoing evaluation of campus-wide or classroom-specific wireless coverage **Baseline year:** 2020-2022 **Measure(s):** number of installed Access Points (AP) on campus, number of devices that the APs can support, and coverage area now covered that were not previously covered. **Data Source(s):** Cisco and Meraki management servers, installation records, vendor AP specs and wireless heat map before/after installation.	**Wireless AP project:** Replaced Cisco with Meraki wireless access points. Also, added new Access Points as needed (total of 234 APs). The new APs can handle more devices, with better coverage. We are currently in the process of adding more outdoor APs to provide wider coverage outside of the campus buildings. **Switch Project:** Replaced 139 Cisco with Meraki switches. In addition, the bolstered fiber backbone provided more throughput to the wireless APs.

			Campus VDI system: Allowed students to remotely access specific software that was previously only available on lab/classroom machines. Allowed approved employees to access District/campus internal resources remotely. **Global Protect/GP VPN**: allows staff to access campus network resources remotely.
A5	AUO #4: Improve access to information technology resources at the Outreach Centers by improving network capabilities and access to computing resources.	**Target:** Provide sufficient IT resources to ensure the efficient operation of Outreach centers **Baseline year:** 2020-2022 **Measure(s):** Number of devices supported, number of labs and SMCL resources available and operational. **Data Source(s)**: Inventory records, switch/AP upgrade records, student use of lab info.	The AP & switch project increased the coverage and bandwidth that the centers had. The increased speed in the uplink to the centers allowed devices to have a better network experience and more reliable access to Main Campus resources.

A6	AUO #5: Evaluate Unit Plans and replacement cycles to determine the feasibility of proposed technology acquisitions and the usefulness of existing technology deployment.	**Target:** More efficient use of resources and assessing the feasibility of the request and computer acquisition/installations. **Baseline year:** 2020-2023 **Measure(s):** Does the lab support the software applications that the education plan requires and deliver the application efficiently to optimize learning opportunities?	Besides difficulties caused by the pandemic, campus IT still met with division stakeholders to ensure that their technology needs are met with the annual computer refresh cycle. The refresh cycle on some computers was placed on hold since they were not being

		Data Source(s): Campus IT & department requester	used during the pandemic years. During this period, IT purchased and installed 614 employee laptops & 873 student lab/classroom computers.
A7, A10	AUO #6: Implement software that can assist faculty and staff in improving student success	**Target:** Provide access to software relevant to increase student engagement. **Baseline year:** 2020-2023 **Measure(s):** Software installation requests; demand for the VDI environment; the amount of software provided on campus and via remote access. **Data Source(s):** Requests logged in Service Pro, and Service Central. Access logs in our virtual environment.	In 2020 when the pandemic hit, certain software was deployed to support remote instruction, such as Zoom, Google Apps, Office 365 Apps, and the VDI environment that was provided.
A	AUO #7: Support college construction and renovation plans.	**Target:** Have technology ready to support the newly constructed Mohr & Lillard Halls. **Baseline year:** 2020-22 **Measure(s):** Buildings completed with technology installed. **Data Source(s):** Service Pro tickets, number of computer carts prepared, KACE tickets	Campus/DO IT worked with contractors to design the optimum location for new APs (indoor & outdoor) and data drops for offices and labs/classrooms. Campus IT moved all IT and network equipment from the old to the new buildings; imaged and deployed procured new computers, monitors, and printers.
C	AUO #8: Develop ongoing communication mechanisms for facilitating dialogue on IT policies and issues.	**Target:** Increase communication with campus & District groups regarding IT matters **Baseline year:** 2020-2023 **Measure(s):** Agendas and minutes of governance meetings demonstrating dialogue with the campus	In conjunction with EITC, SLT, Campus Executive Team, and other Academic/Classified/Student Governance groups discussed campus-wide projects and weighed concerns and suggestions.

		Education & IT Committee (EITC) **Data Source(s):** meeting records	
Narrative: Brief summary -	Despite the pandemic completely disrupting our standard processes, through extensive commitment of the campus/District IT employees, we were able to quickly adapt to remote instruction. Recap: • Over 1,400 computers were purchased and deployed • Deployment and training of remote technologies for students/employees • Overhaul replacement of 234 Wireless Access Points and 139 network switches • Facilitating IT equipment from old to new MOH and LIH buildings; including procurement and deployment of IT hardware		

1. **Review of last year's resource use**:

   a. By utilizing (primarily) HEERF Funding, during the 2020-23 period, campus IT purchased 614 full-time employee laptops to support the Mobile Workforce district initiative (switching from desktop to laptop modality) and 873 lab/classroom student use laptops with carts.

   b. IT hired a Student Help to assist with the laptop's deployment project and to surplus the old equipment

   c. Extended a 9-month Senior IT Tech to move and configure the IT equipment from the old to the new LIH building

2. **Factors affecting the work of the program.**
   - Currently, the IT department has two 9-month and one 10-month employees. Historically we have always been extending them before the pandemic due to the ever-increasing workload. Due to the increase in on-ground and online instruction, it is necessary to permanently extend them to 12-month FTEs to provide more stable and timely support to our students and employees**.**

   - Delays in receiving purchased equipment from the vendors. For example, receiving docking stations for employee laptops took over a year.

SECTION II: FUTURE GOALS, DIRECTIONS, AND STRATEGIES

A. MULTI-YEAR DIRECTIONS AND STRATEGIES

Most objectives outlined in the 2023-2026 IT program plan have roots in prior strategic and program plans. While there may be changes in emphasis or specific technologies each year, many strategies are multiyear including the following:

- Student Tech Support

- Network switches and Wireless Access Points performance evaluation and improvement
- VoIP phones replacement
- Review/Replacement cycle for hardware, networking, servers
- Expenditure in institutionally supported software & hardware
- Mobile Device Management strategies that impact network planning
- Organizational restructuring based on changing work requirements and institutional priorities
- Virtualization as a strategy for providing desktop, laptop and server access
- Addressing information security concerns (SCC-IT and DO-IT)
- Providing training to faculty, staff, and students on both educational and administrative technologies
- Ensuring ADA compliance with purchased and developed technologies
- Assess and upgrade the physical network cable plan infrastructure, including upgrading Ethernet cables i.e., Cat3/5e to Cat6
- Investigate technologies that help monitor, alert, and remediate system threats and performance issues
- Analyze the environment of the server room and supplement the current configuration to better provide an optimized, controlled facility for system functionality and longevity
- Investigate ways to improve our current document imaging technology to align with enterprise best practices

B. UNIT OUTCOMES: ADMINISTRATIVE UNIT OUTCOMES (AUOs) or STUDENT LEARNING OUTCOMES (SLOs) FOR THE PLANNING CURRENT CYCLE

2023-2026 AUOs and SLOs		
College Strategic Goal	**Administrative Unit Outcome (AUO)/Student Learning Outcome (SLO)**	**Expected Outcomes/Targets**
Goal 1	AUO #1: Implement software that can assist faculty and staff in ensuring student success	Provide students with the means to experience education through various modes on campus, at home, synchronously and asynchronously using expanded Wi-Fi (Appendix B), student use computers, and video capture software. Increased use of VDI would allow the campus lab experience to be extended off-campus (Appendix D)
Goal 2 & 4	AUO #2:	Quality and timeliness of services will be improved

	Improve communication and project coordination with the college and District entities responsible for the range of technologies.	by standardizing the campus by using Service Central, MS Teams, and Maintenance Connection.
Goal 2 & 5	AUO #3: Develop ongoing communication mechanisms for facilitating dialogue on IT policies and issues with EITC, SLT, Campus Executive Team, Campus Safety groups (LRPD & Operations) and other Academic/Classified/Student Governance groups.	Allow all affected and interested parties to express their points of view concerning campus-wide IT projects equally and fairly.
Goal 1 & 3	AUO #4: Maintain teaching and learning environments for students by implementing a computer replacement cycle for desktops and laptops purchased in the 3-6-year period depending on need; improve wireless coverage campuswide; maintain the VDI infrastructure	Continuous assessment, procurement, and deployment of instructional hardware to support contemporary teaching environment. In FY 23/24, IT plans to: • Replace 456 desktop and laptop computers in the labs/classrooms if more on-ground instruction is hosted in Fall 23 & Spring 24 (Appendix A). • Improve outdoor wireless coverage by adding 8 wireless access points (Appendix B). • Renew 300 VDI licenses to provide students access to VDI OpenLab and on campus labs (Appendix G).

SECTION III: ANNUAL PROCEDURES AND RESOURCE REQUESTS FOR THE PLANNING YEAR

The college's Information Technology functions are conducted through the following procedures:

1. The IT department establishes the annual review and replacement cycle for computers and servers. The proposed technology scheduled for replacement is reviewed with area IT support and college units to ensure the schedule is complete and correct.

2. The IT department works with the DO IT, EIT committee, divisions, and departments to define technology standards for the college environment.

3. The IT department works with college units to define the needs for modern technology through the Unit Planning process and assess project feasibility.

4. The IT department works with the District Office on defining infrastructure needs and district-wide technology requirements and resources.

5. The IT department works with departments to control access to accounts, file shares, systems, and computing resources.

6. The IT department works with areas hiring new faculty and staff on obtaining necessary technology and access.

7. The IT department works with district-based committees and task groups to ensure development and implementation of systems to support student success and college functions.

8. Information security procedures and training are the responsibility of the college Information Security Officer, working with the district and college.

Resource requirements: State the resources (human, financial, facilities, and IT) needed to implement program objectives.

- Converting the 9 and 10-month IT staff positions (Senior IT Tech and IT Specialist I) to 12 months. Due to the ever-growing demand to support student and employee technologies.

- See more in 2023-24 ITIP below:

Information Technology Institutional Purchases
2023-2024

Vendor	Product	Due Date	Qty.	Cost	GENFD	VTEA	SEAP	Cat. Cost
Computer Replacement Cycle – PC Computers (ITIP-01)								
HP	Standard Staff/Lab Monitor & PC Configuration		111	1,183		131,313		
	Standard PC Configuration **without** monitor		67	942	63,099			
	Standard PC Configuration without monitor		12	866			10,392	
	Laptop Configuration ProBook 650		82	1,510	123,820			
	Laptop Configuration ProBook 650 SWF		24	1,510			36,240	
	Laptop Configuration ProBook 650		32	1,510		48,320		
CDWG	Computer Locks, Surge Protectors, Cable Adapters, Display Ports (including Macs)	multi		3,000		1,360		
					1,640			
	Totals				**188,559**	**180,993**	**46,632**	**227,625**
Computer Replacement Cycle – Mac Computers (ITIP-02)								
	iMac Desktop **Non-standard** for Lab							
Apple	iMac Desktop Standard for Lab		58	2,235		129,630		
CDWG	VisionTek USB-C adapters for T-100 & 103		58	11		638		
Apple	Laptop Configuration: MacBook Airs, 13-inch		12	1,600			19,200	
	Totals				**-**	**130,268**	**19,200**	**149,468**
Server Replacement Cycle (ITIP-03)								
CDWG	Replacement of SCC-NAS-SMS		1	10,000	10,000			
CDWG	Replacement SCC-FINAID server	Pending	1	10,000	10,000			

	Totals				**20,000**	-	-	-
Software Maintenance Licensing (ITIP-04)								
JAMF - Mobile Device Management for MAC OS X & iOS devices	Jamf AT Mac OS	9/1	169	18	3,042			
	Business Mac OS	9/1	30	18	540			
	Journalism Mac OS	9/1	12	18	216			
	Spare Mac OS	9/1	15	18	270			
	Employee MacBooks Mac OS	9/1	95	18	1,710			
	Employee iMacs Mac OS	9/1	5	18	90			
	Spare iPads (15 iPads projected growth)	9/1	30	9	270			
	DSPS iPads	9/1	3	9	27			
	CDC iPads	9/1	10	9	90			
	HFA iPads	9/1	29	9	261			
	AT/Photo & Cosmo	9/1	10	9	90			
	Bus iPads (10 ECC & 3 division iPads)	9/1	13	9	117			
	Math and Statistics iPads	9/1	3	9	27			
	L&L iPads	9/1	4	9	36			
	Total Jamf							6,786
Clever -bridge	Bitvise SSH Server Upgrade Extension-Maint. Fee	9/1	2	20	40			
CDWG	Datrium Support (on hold until 2022-2023 when previous 3-year support ends) placeholder	End of fiscal yr	1	162,000	162,000			
CDWG	VMWare Licensing Maintenance for Server Virtualization Exp: 10/20/19 Renew by: Sept 2019	9/1	1	7,000	7,000			
Computer Land	Adobe Creative Cloud	7/1	696	73	50,808			

	Visio Pro Device #D8701057CFU		26	55	1,430			
Computer Land Desktop bundle for Faculty and Staff Microsoft License Renewal	Visual Studio enterprise with MSDN per user #MX300115CFU		2	375	750			
	Windows VDA per device #4ZF-00019CFU		195	34	6,552			
	SQL Server Standard Core #7NQ-00303CF		14	348	4,872			
	SQL Server Standard Per Server #228-04437CF		2	88	176			
	Windows Server Datacenter Core #9EA-00271CF		10	360	3,600			
	Windows Server Standard #9EM-00265CF		13	52	676			
Faronics	DeepFreeze	7/1	670	3.75	3,500			
CDWG	VEEAM	10/1	4	425	1,700			
	VEEAM agent 10 pack		1	1,300	1,300			
Naviant	Kofax Ascent Capture		6	832			4,992	4,992
CDWG	Scanner for replacement as needed		1	8,000			8,000	8,000
SSPI	SARSGrid "Anywhere", SARS Grid Add-on Text, SARS Messages, SARS Alert, SARSCall, SARSTrak, SIM-T-Mobile (2) Exp: 06/30/20 Renew By: May 2020	4/5	1	11,300			11,300	
TechSmith	Camtasia Support Exp: 12/2023 Renew By: 10/24/2023	11/1	41	35	1,438			
RuneCast	Runecast support for VDI classrooms		1	3,240	3,240			
CDWG	Manage Engine (SIEM/Log Correlation/Analytics)		1	3,700	3,700			
	Totals				**259,568**	**-**	**24,292**	**24,292**
Upgrades to Redeploy Computers (ITIP-05)								
CDWG	Redeployment supplies		75	40	3,000			
	Totals				**3,000**			**-**

Virtual Desktop Infrastructure Maintenance and Expansion (ITIP-06)								
VMWare	Maintenance of Current VDI Licenses Exp: 10/24/2023 Renew By: Sept 2023	9/1	300	55	16,500			
	VDI Host for expansion							
	Totals				**16,500**	**-**	**-**	**-**
Server room upgrade (ITIP-07)								
Various	Whole room UPS for Data Center: LRC-125		1	57,085	57,085			
Various	Equipment to support network changes		1	3,000	3,000			
	Totals				**60,085**	**-**	**-**	**-**
Networking (ITIP-08)								
DO IT	Cable installation/replacement (CAT5e with CAT6) for indoor & outdoor WAPs (wireless access points)	Ongoing for 3/4 years			51,000			
CDWG	BlueBeam license - view/read DO asbuilt drawings		1	800	800			
DGI	Nexus 9300 Data Center switches (tax & 5-year SmartNet support included)		2	20,750	41,500			
GrayBar	Oberon Wireless AP Stadium Enclosure Compact. CATALOG NBR: 1021-00. (GB PART #2546322)		28	241	6,748			
	Totals				**100,048**	**-**	**-**	**-**
					647,760	311,261	90,124	401,385
			VTEA		$311,261			
			SEAP		$90,124			
			GENFD		$647,760			

Total for FY 23-24 $1,049,145

APPENDICES:

A. Computer Replacements:
A yearly review and replacement cycle for computers has been established based on the age and functionality of the equipment. Campus IT will annually establish the Standard PC, MAC, desktop and Laptop Standard. Most of the computers will be replaced with standard computer configuration. Instructional Labs/Classrooms that may require computers with additional capabilities above standard and the replacements will meet Instructional requirement. Staff computers that require additional capabilities above the Campus standard will be required to go through the campus established process.
Switches to other technology (PC to Mac or desktop to Laptop, Real to Virtual) will be decided at the time of replacement cycle review.

B. Network Planning Assumptions
We continue to focus on the availability and coverage of our wireless infrastructure and updating our wired network. We anticipate adding eight outdoor wireless access points (WAPs) to various areas, including the outdoor quad area in the center of campus, the Art court, and the PAC corridor. Expanding this service to these areas will allow for a more robust wireless infrastructure and will also enhance adjacent areas where coverage exists and provide a more seamless network experience when traveling across campus. Another upgrade to the wireless network will be replacing the cabling leading to the WAPs. Currently, there are approximately 130 WAPs to upgrade the cabling to. It is anticipated that this project can take 3-4 years by completing 30 per year. This project also has a dependency, FM will need to complete the conduit pathways for the cabling. The wireless APs will be transitioning to new mounting brackets. These will move the APs from vertical wall mounts to horizontal ceiling mounts. The change in orientation will improve signal quality and range.

Here are some network-related projects that campus IT is planning for 2023-26:

- Indoor & outdoor Wi-Fi coverage will be augmented, especially in the PAC building.
- The wired network will also undergo cabling upgrades, and existing cat5e cabling will gradually replace high-flex cat 6 cables.
- The West Sac center Wi-Fi coverage will be enhanced including the outdoor seating area.
- The McClellan center classroom IDF (network switch cabinet) will be moved out of the classroom into the adjacent electrical room. This will prevent accidental loss of power to the network equipment, and the classroom will be more ADA-compliant.
- Basic Needs Center – New building will have up-to-date networking, including outdoor and indoor Wi-Fi.
- Makerspace – adding new network drops added, including an outdoor WAP (Wireless Access Points)

C. Server Replacement Plan

Physical campus servers are evaluated yearly according to functionality, reliability, and status of the warranty. If a server is approaching the End of its warranty, we determine if it can be virtualized or if a physical unit must be replaced. Servers that house our virtual environment are expanded based on the quantity and storage necessary for campus needs.

Our storage array servers designed by Datrium are reaching the end of their support and are planned to be replaced by a unit from PURE storage. This newer unit promises continued high-speed support for our virtual servers and desktops alike.

Amazon and Microsoft cloud-computing solutions are also being explored as possibilities to house virtual servers. If it is determined to be a viable and cost-effective solution, it will limit some of the hardware purchases and reduce some environmental costs on cooling and electrical usage, as well as reducing theft and fire/water risks.

D. Virtual Desktop Maintenance

The Virtual Desktop Infrastructure continues to have broad adoption and high utilization. Campus IT continues to evaluate new hardware and software tools to help virtualize Graphic intense programs. Campus and DO IT are exploring potentially utilizing cloud-based technologies for some of the campus services.

E. Server Room Upgrade – Environmental

Please see the Whole Room UPS project in our 2023-24 ITIP.

HVAC will be re-addressed with FM to have a stable and reliable cooling system for the server room, LRC125.

F. Security Focus on System Monitoring/Analytics/Visibility

District IT utilizes modern security tools (NAC – Network Access Control) that help to monitor devices connected to our network to ensure they meet district security standards. It also protects campus/district data and hardware from zero-day exploits, malware, and viruses. Additionally, as of the Fall of 2021, DO IT implemented Multi-Factor Authentication (MFA) via Duo to safeguard the Los Rios District's information systems and the confidential data stored on those systems.

G. Mobile Device Management (MDM)

We continue to use products such as JAMF to support the instructional and employee Apple devices. JAMF allows remote management, software installation, configuration changes, and the locking of missing devices.

For PCs, the District uses KACE for patch management of mobile devices. DO and campus IT are also exploring Microsoft products such as InTune and Autopilot, allowing IT to setup devices right out of the box while in the users' possession.