Santiago Canyon College

Technology Master Plan

2017-2020 | Version 1.0

Technology | Planning | Learning
Presented by the Technology Committee

Technology Master Plan (TMP) Version/Revision Log			
VERSION	**DATE**	**AUTHOR(S)**	**COMMENTS**
Draft	5/18/2017	TMP Subcommittee	Final version approved by TEC
1.0	9/19/2017	TMP Subcommittee	Approved by Academic Senate

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INTRODUCTION

Santiago Canyon College (SCC) is an innovative learning community committed to maintaining standards of excellence and providing accessible, transferable, and engaging education to a diverse community. Within the shared governance framework at the college, the SCC Technology Committee (TEC) is tasked with developing a college-centric Technology Master Plan (TMP) that addresses instructional support and student success. The Rancho Santiago Community College District's (RSCCD) Strategic Technology Plan (STP) will address the networking infrastructure and enterprise systems that serve as the college's information technology (IT) backbone.

Technology is ever-changing so maintaining a high level of hardware and software competency in a competitive academic environment is critical. Investing in a robust learning management system (LMS) and well-developed distance education courses will allow us to make education accessible not only to students with disabilities but also to students of distant communities, and to returning students. Educational technologies utilized inside and outside of the classroom will stimulate a highly collaborative and engaging environment that will meet the needs of a diverse community of learners. The effective use of technology will further help students develop the necessary skills for the jobs of tomorrow. As implicitly expressed in the college mission statement, technology is at the forefront of the modern learning environment; and for our institution to remain competitive, it is necessary to invest time, funds and human resources to maintain its currency.

The goal of this TMP is, first, to reflect on the objectives presented in the previous iteration of this document and to highlight its key achievements; and, second, to establish initiatives that will create a framework for addressing SCC's present and future technology needs. Some of the key initiatives that will be discussed in greater details in later sections of this document are as follows:

- Establishing an annual computer replacement budgetary line-item for the acquisition, maintenance and replacement of aging technology infrastructure (Critical and Urgent)
- Decreasing the technology support ratio from 420 computers to 1 technician to the Technology Advisory Group (TAG) recommendation of 200 to 1 (Critical and Urgent)
- Employee-training workshops and support for Canvas, Windows 10, MS Office, and other district-standard software (Critical and Urgent)
- Compliance with the Americans with Disabilities Act (ADA) and new-emerging Federal and State laws (Critical and Urgent)
- Staffing a college webmaster tasked with maintaining the college's public website, the intranet, the student portal, mobile app, LMS support, and policing ADA compliance

The intended purpose of this document is to clearly identify the central role of technology in providing a learning and working environment that promotes personal and professional growth, as well as serve as a guide for prioritizing the technology initiatives, setting annual technology goals, and making progress toward their implementation.

SCC TECHNOLOGY COMMITTEE (TEC)

Vision:

SCC will integrate technology throughout the classroom and campus to support an innovative learning community that can find, evaluate, use and create content. SCC will identify and utilize existing, emerging and cost-effective technologies that promote positive learning outcomes. The SCC campus will support professional development necessary to deliver curriculum, collaborate, communicate, manage and evaluate information that supports the TMP.

Mission:

The SCC TEC promotes the use of technology to increase efficiency of college operations and to support teaching and enhance student learning.

Responsibilities:

- Maintain a technology plan that aligns with state recommendations
- Assess the technological needs and competencies of faculty, staff, and students
- Provide for staff and faculty technology training
- Make recommendations concerning acquisition, implementation, maintenance, and upgrading of technologies within a secure and robust infrastructure
- Communicate with college and district personnel
- Identify and promote resource procurement to advance technology and its use by students, faculty, and staff
- Recommend allocation of technology resources in accordance with the Educational Master Plan and TMP
- Maintain a website to disseminate technology-related information to the SCC community

Committee Structure:

The SCC TEC structure formally consists of the TEC main body of representatives and one permanent subcommittees: the Website Committee. Other temporary subcommittees (i.e. TMP committee) are created and disbanded as needed. This subcommittees will report to the TEC main body as well as communicate with the SCC College Campus, Academic Senate, and the RSCCD Technology Advisory Group (TAG).

The SCC TEC consists of faculty, classified staff, administrators and a student representative. The Website Taskforce and DEPC consists of members from District, campus faculty, classified and administration.

The SCC TEC structure should reflect constituent groups on campus that support technology and the TMP initiatives. The table below represents the current TEC membership.

Table 1 – TEC Membership

Member	Representing	Classification
Collins, Jeremy	Academic Support - OEC	Classified
Danova, Veselka	Math	Faculty
Engstrom, Vanessa	Geography	Faculty
Gonzalez, Sam	Student Body	Student
Ho, Alice	Library	Faculty
James, Scott	Distance Education Coordinator	Faculty
Johnson, Kimberly	Biology	Faculty
Kirchen, DeAnna	Accounting	Faculty
Moore, Kathy (Co-Chair)	Math	Faculty
Oase, Daniel	OEC	Faculty
Oropeza, Alfonso	Academic Support	Classified Management
Rodriguez, Sergio (Co-Chair)	Student Info. Support	Classified Management
Taylor, Mike	Biology	Faculty

EXECUTIVE SUMMARY

To develop the SCC TMP, a temporary TEC subcommittee was formed. Each member of the subcommittee researched and developed materials pertinent to his or her area of expertise, which were then used to create a cohesive document. After multiple revisions the TMP was presented to all of the members of the SCC TEC, and with some additional refinements, the final edition was crafted. A vote to approve the final TMP was held at TEC.

Throughout the development process of the TMP, one clear message emerged – the need to call attention to the critical and urgent technology needs of our institution without which SCC will not be able to adequately support student learning programs, provide competitive learning environment, or improve institutional effectiveness. Briefly outlined in the introduction, these critical and urgent needs are discussed in greater detail below.

Computer Refresh Budget:

The TMP supports a five-year (20%) computer replacement cycle, or at the minimum, replacing out of warranty machines. However, the biggest drawback from this initiative is the lack of a budget line item that can sustain the defined five-year equipment replacement rate. The SCC Academic

Support department has been proceeding with replacing computers in the classroom and in the faculty/staff offices, as funds become available. There is no dedicated computer replacement budget so many funding sources play a role to create a patchwork of a working budget. Many departments, special grants, and vocational programs at the college receive funding to buy new computers. At times, it is technology requests submitted to the TEC for ranking and promoted to the SCC Planning Institutional Effectiveness (PIE) committee for consideration and possible funding. Other times, District ITS allocates surplus funding to the college to assist with such replacement. Academic Support then proceeds to replace the oldest computers in priority order whether for classrooms or offices.

A well-known impact stemming from the adoption of technology is the clear fact that it will become obsolete in a relatively short amount of time. Therefore, it is of great importance for the college to allocate resources to upkeep the inventory of computers both in the instructional and administrative areas in order to sustain a competitive level of instructional and administrative support services.

Technician Support Ratio:

SCC currently has an inventory of over 2500 computers. This does not include tablets, printers, scanners and other technology that Academic Support maintains. The Academic Support from the ITS department has a small technician team and the current ratio of technology to technician is very high at approximately 528 computers per technician. District ITS's recommendation for a best practice ratio is closer to 200 computers per technician. The effects of keeping these disproportionate ratios reflect on the ability of Academic Computing to respond to users and instructional program needs in a timely fashion. The technicians support time is additionally impacted by having to travel to several remote locations in order to provide needed technical services, such as OEC Chapman, and OEC College Workforce Preparation Center. Technology deployment, and digital equipment upgrades are critical to remain competitive with other educational institutions. As new buildings are constructed, technology grants implemented, and replacement of old computers occurs, the need for additional staff to bring this computer staff ratio down is well justified.

Employee-Training Workshops and Support:

Training our workforce is a fundamental and necessary piece in creating and fostering an innovative learning community. Technology innovations and changes in technology tools and instructional methods are one of our constant challenges. Keeping up with the tools and standards, and using them effectively, is the key to making relevant changes that help us to execute our goals and achieve unrivaled student success. We have identified three areas that need targeted training and support: Instructional Design, Technology Innovation, and ADA. We are advocating for one position, an Instructional Designer that will address all of these needs. This position is crucial for creating a vital and relevant curriculum that engages faculty in promoting student success, while providing opportunities for our faculty to rekindle their love of teaching with innovative strategies or approaches. Instructional designers are able to perform high-level reviews of instructional methodologies and offer alternative teaching strategies that help us to meet our student learning expectations.

Americans with Disabilities Act (ADA) Compliance:

American's with Disabilities Act compliance is an all-encompassing issue. We are required by law to present our public with an ADA Accessible website and online classes before they are offered to the public. Any deviation from this opens us up to an Office of Civil Rights lawsuit. In addition, we are required to provide internal documentation and teaching materials in an accessible format. This means that everything we do needs to be accessible. Yet, very few of us know what this means or how to ensure that you are meeting our legal ADA expectations.

To achieve a level of competence at our institution in regards to ADA compliance, we need support and we need a lot of consistent and varied training opportunities. In short, an Instructional Designer with a background in ADA would be an ideal resource to help SCC with Instructional Design strategies, technology innovations, and ADA considerations.

Webmaster

The SCC website has been maintained by a mixture of managers, faculty, staff, and contractors since the college's infancy. As the college's web presence has grown the lack of a dedicated webmaster has manifested itself in ADA compliance issues, broken links, stagnant content, a fragmented appearance, and site disorganization. The website being the college's face to the public lacks ownership, despite the oversight of the Website Taskforce.

2012 – 2017 TEC ACHIEVEMENTS

Lynda.com – Online Training Resource:

Santiago Canyon College employees have a great resource available to them for free. The Professional Learning Network, supported by the Institutional Effectiveness Partnership Initiative (IEPI), is now providing unlimited access to Lynda.com for all California Community College employees at no cost. Lynda.com is an online library of courses on software tools and skills. Here are just a few of the benefits to using Lynda.com:

- Courses include a wide variety of technology and disciplines
- Up-to-date content helps to keep your skills current
- New courses are added every week
- Access to instructors' exercise files let you follow along as you watch tutorials
- Closed captioning and searchable, time coded transcripts for increased comprehension
- Beginner to advanced courses to learn at your level
- Watch complete courses or individual tutorials as you need them

Distance Education (DE) Coordinator:

Santiago Canyon College has hired a full time Distance Education Coordinator and has fully integrated the Distance Learning Program into the college planning and review processes. Faculty, staff, and students help guide our Distance Education program on the Distance Education Program Committee (DEPC).

Newsletter:

The TEC publishes an online newsletter twice a year in spring and fall semester to keep the SCC community informed of technology events, developments happenings in the college, best practices for teaching with technology, current trends in instructional technology and other technology related matters. The newsletter articles were contributed by members of the TEC committee as well as faculty, staff and administrators.

Technology Resources Funding:

In support of the SCC Planning and Budgeting framework, the TEC committee is responsible for soliciting technology requests from the campus community in an effort to fund technology resources for instructional and non-instructional purposes. The TEC committee has been successful in ranking and prioritizing technology requests for funding consideration by SCC's Planning and Institutional Effectiveness (PIE) committee. The table below represents the PIE technology funding for the academic years 2016 – 2017 and 2015 – 2016. For an itemized table of the funding, please refer to Appendix A

Table 2: PIE Technology Funding, 2015 – 2017.

TECHNOLOGY FUNDING	
Requested Resource	**Amount**
2016 – 2017	
TOTAL	**$76,000.00 (one-time)** **$2,000.00 (ongoing)**
2015 – 2016	
TOTAL	**$591,377.85 (one-time)**

Mediated Rooms:

The college began to integrate a new classroom mediation standard based on Utelogy adopted during the 2015-2016 year. In Fall 2016, 12 classrooms were renovated with Utelogy-based classroom technology such as short throw LED projectors, ADA-compliant furniture for the instructor station with electrical power buttons to adjust the height of the desk surface as well as wheelchair space to drive such station. Any of the new upgrades are expected to follow this standard. In the majority of the classrooms in the newest buildings, Humanities (H) and Science

Center (SC), proprietary Extron technology based equipment was installed.

AirWatch Mobile Device Management (MDM):

As the college's acquisition of mobile devices continues to grow, so does the complexity in managing these devices. Whether it is a grant awarded to supplement new academic programs, or an inception of a new classroom teaching methodology, the explosion of mobile device deployment has begun. In order to cope with the rapid growth of mobile devices, District ITS has acquired a tool named AirWatch, a mobile device management (MDM) system. Academic Support is in the process of determining the extent of which AirWatch will help with deployment and management of both Apple and Windows-based mobile devices for student and staff use. So far it is particularly helpful in controlling the software licensing and facilitating software deployments on iMacs and iPads.

Academic and Student Online Services:

As SCC's online enrollment continues to grow, there becomes an increasing need to provide online students with services they can access without being physically at the college. Many of SCC's Student Service and Academic departments have worked to implement online services to ensure the needs of these students are addressed. A list of over 30 of these services are available at the link below:

https://www.sccollege.edu/StudentServices/Admissions/Pages/Online-Services.aspx.

Compliance with Section 508 of the Americans with Disabilities Act (ADA):

The college has begun to address its website accessibility issues by acquiring and implementing a new accessibility Siteimprove module. This module provides web publishers with reports identifying the web pages and PDF documents with accessibility problems. Starting in the summer 2016, the Website Taskforce began putting together a partnership with Disability Support Program and Services (DSPS), ITS, and Public Affairs departments to begin offering accessibility training workshops. The main goal of the workshops is to educate and raise awareness amongst web content owners about the importance of producing online materials that are accessible to people with disabilities. The training workshops help web publishers identify the webpages reported by the Siteimprove module, and guide them through correcting the encountered issues. Also, the DSPS department trains web publishers in producing PDF documents that are compliant with Section 508 of the Americans with Disabilities Act (ADA) and the Web Accessibility Guidelines (WAG). Finally, the Academic Support department keeps the college management council abreast of the status of such task. The college is committed to continue pursuing the efforts needed to reach an acceptable level of compliance with such federal law.

INITIATIVES:

The TMP subcommittee researched and consolidated the high impact technology initiatives it established as goals for the college to accomplish in the forthcoming years. Many of these initiatives require institutional commitment with respect to budget allocation and implementing best practices that may not always be feasible. Regardless, we strive to identify those technology initiatives that will most benefit our students with a modern learning environment and our faculty in providing a first-class education.

Mobile Application (App) for Student Registration:

SCC will be deploying the Ellucian GO mobile app that allows students to register for classes on any iOS or Android smartphone or tablet device. The app can be downloaded from either the Apple Store or Google Play. The app is a very simplified version of the WebAdvisor registration functionality based on section keyword searching, similar search engines on the Web. The app also displays hold notifications, a class schedule view, grades, staff directory and campus map. Students will be able to register from anywhere, pending WiFi connectivity or cellular data plan.

At launch, the SCC app will have its own branding and SCC-only section search capabilities. A marketing campaign will be launched with campus posters, Web site announcements, and email blasts to current students and new applicants. The app will provide a new and convenient mechanism of class registration to encourage enrollment.

Student Portal:

The RSCCD has procured the Ellucian (aka Datatel) Portal as a centralized gateway to campus networks and computing resources that encourages communication with focused student groups. Key elements include:

- Access resources with a single sign-on (such as Microsoft email, WebAdvisor, Blackboard,

etc.)
- Analyze usage, view key indicators, and create a consistent user experience
- Set up rules to present the right message to students based on their cohort, profile, major, etc.
- Personalize and customize content so users get the information that they want and the information that you want them to see.
- Targeted alerts, announcements, emails, and calendar notices.

SCC and the Orange Education Center (OEC) will have their own Portal experience and branding. The implementation team will focus on providing easy-to-find resources for current students and not duplicating information already on the college website. These resources includes:

- Alerts
- Announcements
- Integrated Microsoft email
- Link to Blackboard (no login required)
- Nested WebAdvisor functionality
- Self-Service portals (i.e. Ed. Plans, Cashiers, FinAid, etc.)
- To do list
- Class Schedule
    - Forms
- Admissions & Records, Financial Aid, and Graduation Office
- Team Sites
    - SharePoint functionality (i.e. surveys, discussion boards, document repository, calendar, etc.)
    - Student groups and shared governance committees (i.e. ASG, Student clubs, EMC, etc.)
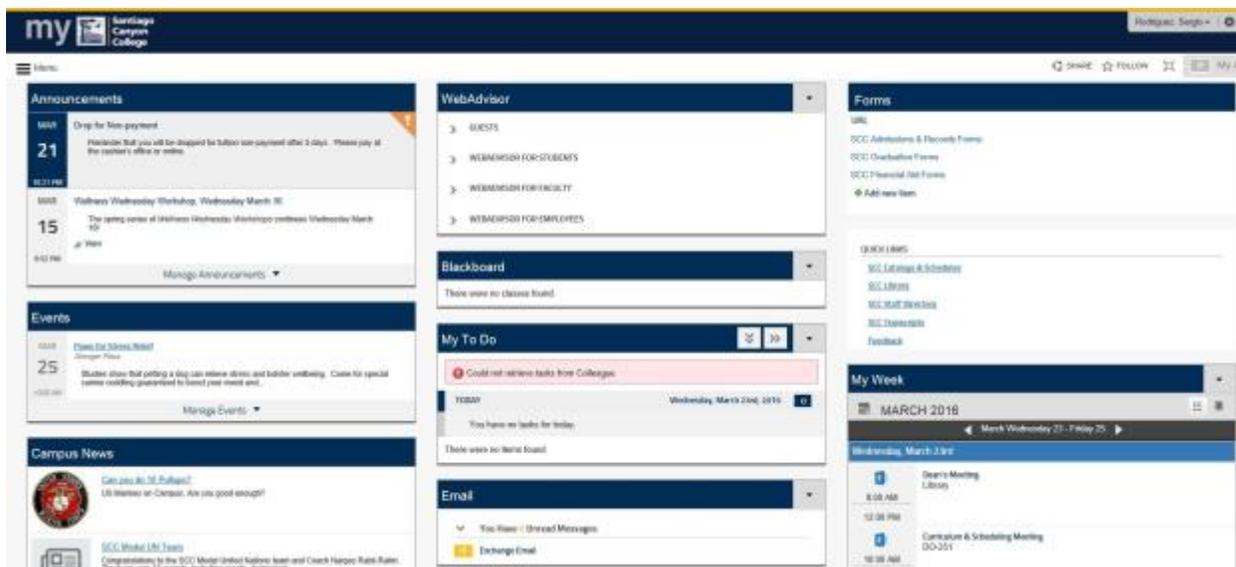
Online Student Education Plans (SEP):

The California Community College's Student Success & Support Program (SSSP), formerly Matriculation, is a program that enhances student success and promotes and sustains the efforts of students to be successful in their academic endeavors. The SSSP mandates SCC to implement an electronic Student Education Plan (SEP) to assist students with their academic planning in developing a comprehensive education plan. A small steering committee of counselors, administrators, and classified staff from Santa Ana College (SAC) and SCC reviewed and assessed academic planning software from vendors and selected Ellucian's Colleague (formerly Datatel) Student Planning Module.

The SEP project will have a major focus on the development of Degree Audit for student academic evaluation. Based on this underlying evaluation, a student will be able to strategize and meet their academic requirements on a term-by-term basis. The SEP will allow for section registration and archiving of Ed. Plans as a history of planning with a counselor. It is hoped that once all students have an SEP, SCC will be able to forecast demand for course offerings and better meet student needs. Another part of the project, is implementation of transfer credit from external colleges for fulfilling SCC's Plan A, B, or C general education requirements.

Social Media:

As a continuously increasing number of students populate social media sites, SCC has realized the prospects of social media as an education tool, and has made strides towards capturing its full potential. Currently, SCC is utilizing Facebook, Instagram, Twitter, and YouTube to increase the visibility of the institution, to deliver educational materials and resources to a larger student body, and to increase the communication and contact between administration, staff, faculty, and students.

Currently social media sites are managed by the district's Public Affairs and Publications department. Due to the sheer volume of users and the continuously changing framework of social media, the district and SCC are understaffed and unable to provide adequate customer service or develop content on regular bases. It is important for SCC to dedicate more resources for keeping social media sites up-to-date in order to establish a permanent online presence.

Learning Management System (LMS) Implementation:

In 2015 and 2016, the RSCCD underwent a comprehensive Learning Management System evaluation. Canvas, by Instructure, was selected as our Learning Management System (LMS).

Canvas offers us a host of advantages that we have not previously had. Switching to Canvas puts RSCCD into a consortium of California Community Colleges who share resources and takes steps toward becoming a member of the State Online Education Initiative course exchange. Many of the tools and services are much improved and have been modernized to help better support students and increase student retention and success.

RSCCD will have fully implemented Canvas by the summer session of 2018.

Instructional Design Center (IDC):

An Instructional Design Center (IDC) is a faculty and staff focused work area designed to support life-long learning and promote effective implementations of instructional technology, instructional design, and collaborate with colleagues in an open discussion about effective teaching practices. SCC has begun the process for designing and implementing an IDC. We are designing the center to be warm, welcoming, well equipped with technology tools and support staff, and a place for comfortable collaboration.

An IDC can be the incubation area for implementations such as Open Education Resources, a Flipped Classroom Model, effective Online Learning design and practices, Active Learning, Distributed Learning, innovative teaching and learning strategies, addressing equity gaps, or targeted-topic get-togethers in an unassuming environment, etc. With a focus on promoting equity, increasing access, improving instruction, open mindedness, and, ultimately, bettering student success, an IDC's curriculum is central to supporting the college's mission.

For more than a decade, SCC has been advocating for an IDC. With help from Student Equity funding we are now beginning to acquire technology for the center.

Going forward, the college has advocated for, and will continue to work towards, the following resources for the IDC:

- An **Instructional Designer** will be needed to develop curriculum for the IDC, evaluate and help to ensure ADA compliance for electronic resources and Online Learning Classes, and

help to develop faculty workshops.
- **Center support staff** will be required to run the IDC and provide lab hour assistance.
- The center will need to have **a workshop classroom**, **a common area** with many areas to collaborate, and **technology tools** needed to support and design with innovative learning technologies.

Distance Education Program Committee (DEPC):

The TEC was previously responsible for steering the Distance Education Program. To better focus on Distance Education, SCC created a committee just for Distance Education.

The mission of the Santiago Canyon College Distance Education Program Committee (DEPC) is to steer the Distance Education Program and work with the Distance Education Coordinator to establish standards, procedures, and policies that contribute to the quality and growth of the program.

Responsibilities

- Assist the Coordinator in reviewing, creating, and revising distance education standards, procedures, and policies.
- Assist the Coordinator in reviewing and setting program goals/objectives.
- Assist the Coordinator in promoting and publicizing the Distance Education Program.
- Evaluate evolving trends in distance education and construct recommendations for integrating effective practices into standards, policies, and/or procedures.
- Review and make recommendations for program pathways (degrees, certificates, course offerings) as compiled by academic divisions.
- Review, make recommendations, and approve Distance Education Addendums before submission to the Curriculum and Instruction Council for approval.
- Review and revise expected learning outcomes for the online teaching certificate program.
- Assist with Distance Education website content and design.
- Create and maintain an online teaching community.

Online Teaching Certification Program:

SCC requires all professors who wish to teach online to complete an online teaching certification. This certification is a 120-hour program that consists of instructional design, technology tools, and multimedia ADA accessibility. 95 faculty have been certified to teach online since the certification began in the fall of 2014.

A preliminary evaluation of the program's effectiveness has been completed. The findings, with a limited sample, indicated a positive impact. Success rates were compared for teachers who have taught online classes before taking the certification and after the certification. The results indicate that teachers were able to improve their success rates by about 10% post certification.

Table 3 – Distance Education Certification Data

	PRE-DE CERT	POST-DE CERT	TOTAL
Grades Given	6,847	1,433	8,280
Success Rate	**59.2%**	**69.7%**	**61.0%**

Bring Your Own Device (BYOD):

Supporting students and their mobile devices ranging from laptops, tablets, and smartphones with a myriad of operating systems can be a daunting task. Students use these devices to complete homework assignments, use course software, perform research, collaborate with classmates, register for classes, online learning, and for leisure (YouTube, Web browsing). District ITS has done a very good job of supporting these devices with the following technical infrastructure:

- Wireless Network - an upgraded robust wireless network installed throughout the college campus enables students to access the web with their device
- Student Email – a student is provided with a **@sccollege.edu** email through the Microsoft Campus agreement
- Microsoft Office 365 – a student is provided access to the full Microsoft Office suite of applications as a cloud application through the web browser
- Cloud Storage – students can utilize the Microsoft One Drive as a cloud storage solution to store documents and file so as to be retrieved from any device

District ITS also piloted a Virtual Desktop Infrastructure (VDI) pilot in hopes of allowing virtual access to specialized software only installed on campus computer labs, but many of the specialized software did not lend itself to being virtualized due to its age. In addition, the pilot showed that the user experience of accessing a virtual desktop and applications through an application window will confuse many students. Hopefully as VDI software improves and the lab specialized software is upgraded, then the virtualization of software for students to consume on their device can be revisited.

From a facilities perspective, the college has work to do to accommodate a BYOD learning environment. Students are wanting collaboration tables in open areas with centralized charging hubs for students to charge their devices via USB or power outlet. Charging towers, similar to those found at airports, can be positioned at student gathering areas around campus. Outdoor solar charging tables can encourage green energy usage and provide outdoor study areas for more effective use of space. It is that quaint coffee shop feel that students are coveting with device chargers and wireless access in a social setting.

Wireless Printing:

To further support a BYOD learning environment, wireless printing will accommodate printing from a device without having to be physically hardwired to a college's network printer or manually transfer a file to a network PC. These "pay-for-print" services can leverage the existing wireless infrastructure and use cloud technology to queue up print jobs from students' various devices and document formats. Wireless printing stations can be set up at multiple labs and tutoring centers throughout the college to facilitate student printing, rather than just the library as it stands today.

Many community colleges across the state have implemented wireless printing solutions from commercial vendors. Products such as ITC System's PrinterOn or Pharos Mobile Printing allow a student to upload a file or email an attached file to a print server for printing. These products also offer iOS or Android apps to print directly from smartphones. These products integrate with all major OneCard account solutions for managing the financial transaction of the print job.
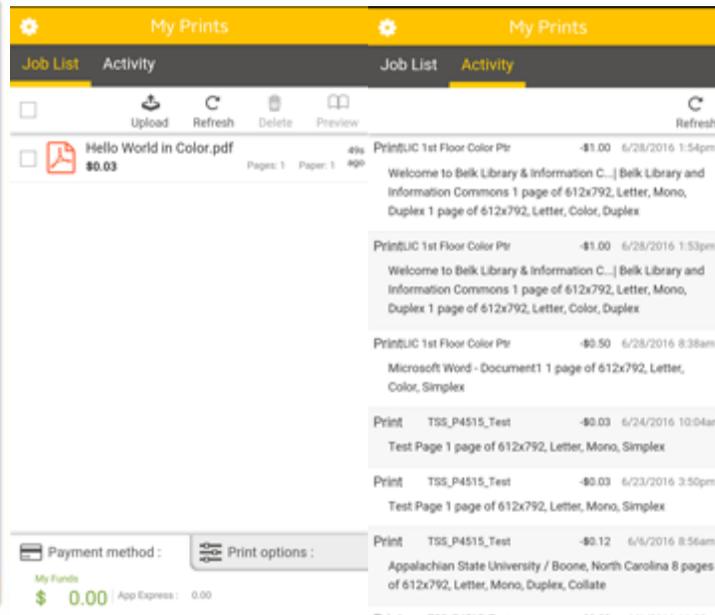
Open Educational Resources (OER):

SCC was involved in one of the first California Community College Open Educational Resources (OER) initiatives, The Kaleidoscope Project. OER provides students with a low cost alternative to high cost textbooks. SCC's Mathematics faculty was instrumental in developing high quality OER to be used in the classroom. This was a very successful implementation for our Mathematics Department, which replaced dozens of hardcover textbooks requirements with an OER textbook for many of its sections.

Several State OER grant opportunities have been offered to the California Community College system in the past few years. Unfortunately, SCC has not been in a position to apply for any of these grants. In order to begin to promote OER it is necessary to identify and task several faculty and staff to be OER leads. Additional incentives may need to be made available for faculty to create or adopt OER for their class sections.

Instructional Design, American's with Disabilities Act (ADA), and Technology Training and Employee Support:

Training our workforce is a fundamental and necessary piece in creating and fostering an innovative learning community. Technology innovations and changes in technology tools and instructional methods are one of our constant challenges. Keeping up with the tools and standards, and using them effectively, is the key to making relevant changes that help us to execute our goals and achieve unrivaled student success. We have identified three areas that need targeted training and support: Instructional Design, Technology Innovation, and ADA. We are advocating for one position, an Instructional Designer, that will address all of these needs.

Instructional Design

As our institution reviews the effectiveness of our instruction or experiments with innovative learning pedagogy, it becomes necessary to make accurate high-level analyses to ensure that we are providing high-quality instruction. Instructional designers are able to perform high-level reviews of instructional methodologies and offer alternative teaching strategies that help us to meet our student learning expectations. This analysis and implementation strategy is particularly important in delivering high-quality online classes, as teaching methodologies that are typically utilized online differ from in-class instruction strategies.

At SCC we are in the process of developing an Instructional Design Center (IDC) and the faculty have been advocating for an IDC for over a decade. But an IDC is vacant without an Instructional Designer. This position is crucial for creating a vital and relevant curriculum that engages faculty in promoting student success, while providing opportunities for our faculty to rekindle their love of teaching with innovative strategies or approaches.

Technology Innovation

We have all experienced the challenge related to updates in software or getting used to new applications. This change is sometimes uncomfortable, time consuming, and often happens at the worst time. One relevant example of this RSCCD's adoption of the Canvas LMS. At RSCCD we have been using Blackboard since it was in Beta. And now we are faced with converting all of our classes into an unfamiliar and technologically packed cloud-based system that feels foreign. While Canvas is an unusual change, converting to and updating our abilities with Microsoft products is an ever-present companion. Many of us know about the Cloud and document sharing. But our institution's adoption of Cloud and document sharing is almost non-existent, despite the tremendous benefits in that type of online collaboration and document security.

American's with Disabilities Act (ADA)

ADA compliance is an all-encompassing issue. We are required by law to present our public with an ADA Accessible website and online classes before they are offered to the public. Any deviation from this opens us up to an Office of Civil Rights lawsuit. In addition, we are required to provide internal documentation and teaching materials in an accessible format. This means that everything we do needs to be accessible. Yet, very few of us know what this means or how to ensure that you are meeting our legal ADA expectations.

In particular, Distance Education classes must be ADA accessible before being offered to the public.

This means, in general, that all documents that are uploaded to the site are properly formatted for a screen reader, all images have appropriate image descriptions and "alt tags", and all of our videos are closed-captioned. Several other expectations are also present including color considerations, accessible software controls, and other software considerations.

Many of our ADA requirements can be met by offering accessible documents. Alternate Media Specialists, one of whom is employed by our DSPS Department, are able to convert documents into accessible formats very quickly, unlike faculty and staff who do not have that highly specialized skill set.

The Website is required to be ADA accessible. At SCC we have hundreds of content developers for our website. Each one is responsible for ensuring that what they are publishing is ADA accessible.

To achieve a level of competence at our institution in regards to ADA compliance, we need support and we need a lot of consistent and varied training opportunities. In short, an Instructional Designer with a background in ADA would be an ideal resource to help SCC with Instructional Design strategies, technology innovations, and ADA considerations.

Common Assessment Initiative (CAI):

Faculty and staff from across the state are working on the CAI to develop a new student assessment system known as "CCCAssess." This unified platform will be used for testing, placing and advising community college students in the subjects of English as a Second Language (ESL), Mathematics, and English. The initiative's primary goals in developing the comprehensive, common assessment system are to reduce unnecessary student academic remediation, provide statewide efficiencies for academic placement within and between the California community colleges, and to foster student success.

SCC has been participating with the various CAI workgroups to best position itself for system implementation once CCCAssess is deemed ready for deployment.

WiFi Improvements:

As the use of mobile devices continues to increase, whether smart phones, tablets, iPads, laptops, etc., students as well as employees bring those devices into the college setting. The natural expectation is that those devices can at least gain access to the internet via their wireless connection. The college is addressing this single necessity as one of the top priority service items to meet such basic demand. The college WiFi is constantly being maintained to provide faster and more comprehensive coverage for internet connectivity. District ITS surveys the campus to find and provide signal coverage for wireless access blind spots. As ITS deploys these new access points to cover dead signal zones, inherently, a mix of access points with the newer standards are deployed. Because the access points are different, ITS continually works to ensure users do not experience a drop off of connection between the different access points and provide a smooth handshake transition as the user roams around the campus.

Technician Support Ratio:

The District TAG has set as a goal to maintain a 200 computers to 1 technician ratio. The current ratio of SCC Academic Support technical staff to the number of computers in inventory is approximately 528 computers to 1 technician. This ratio is way over the target ratio of 200:1 set by the District TAG. As new buildings are constructed, technology grants implemented, and replacement of old computers occurs, the need for additional staff to bring this computer staff ratio down is well justified. The effects of keeping these disproportionate ratios impact the ability for SCC's Academic Support staff to respond to users and instructional program needs in a timely fashion. Technology deployment, and digital equipment upgrades, are critical if SCC is to remain competitive with other educational institutions.

SCC Academic Support department has the following structure:

- Academic Support Director -1
- Technology Specialist III positions -1
- Technology Specialist I positions -2
- Network Specialist II positions -0 due to hiring freeze
- OEC - Technology Specialist III positions -1
- OEC - Technology Specialist I positions -1

These technicians provide the support for the following number of stations in the Instructional (I-Side) and Non-Instructional (N-Side) networks:

Total SCC I-side Stations	1571
Total OEC I-side Stations	567
Total SCC and OEC I-side Stations	**2138**
Total SCC and OEC N-side Stations	482
Total SCC N-side Mobile Devices	23
Total SCC and OEC N-side Stations and Mobile Devices	**505**

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Grant Total SCC and OEC N and I-side Stations	**2643**

These technicians support time is additionally impacted by the mere fact of having to travel to several geographical sites in order to provide the services, such as OEC Chapman, OEC College Workforce Preparation Center, and several County inmate facilities.

Computer Refresh Budget:

As a relatively young college, the primary funding sources for purchasing new computers and printers at SCC have been new construction bonds, grants, and the Vocational and Technology Act (VTEA). These funding sources are usually one-time (bonds and grants) or have funding restrictions (i.e. VTEA). As the inventory of computers and printers increases, there is no dedicated budgetary line item in place to refresh these resources. In contrast, an annual budgetary line item exists for funding the maintenance of the college grounds and landscape. As a maturing college, we must establish an annual budgetary line item to refresh the aging technology resources the staff, instructors, and students utilize in an effort to support innovative learning and teaching at SCC.

Currently, much of the college's technology hardware is out of warranty and in need of replacement

(see Appendix B). At one time, the college's library had 8-year old computers that frustrated students with slow loading times and old tube monitors. These aging technology resources will have a detrimental effect on the quality of instruction and will ingrain a sense of an unsupportive college in the instructor and the student. This runs in direct contrast to the goals of the college.

- The SCC Educational Master Plan has identified technology as a key goal:
  6. Maintain and enhance the college's technological infrastructure
- The SCC Facilities Master Plan also identifies improving technology as a goal:
  Improve Access to Learning - Continue technological advancements

To meet these institutional goals, the college must invest in maintaining and improving its technology infrastructure with a dedicated annual technology refresh budget. The RSCCD STP has identified five years (20%) as the standard operational life of a computer and six years for a printer. Tablets may have a shorter operational life. Appendix B lists the PC inventory of the college and identifies machines out of warranty and replacement costs. The SCC Director of Academic Support will prioritize the replacement of equipment using these lists ensuring a reasonable proportional replacement in the areas of PCs. Instructional equipment will always be given the highest priority.

An annual technology refresh budget is a critical missing element in the college's fiscal planning. In order to maintain our high education standards, the refresh budget will keep the college abreast of advances in technology in order to replace aging equipment with new cutting-edge technology in support of a modern learning environment.

Classroom Audio/Visual (A/V) Media Refresh Budget:

In addition to the challenge of computer replacement, the college also faces the challenge to maintain classrooms with audio/visual equipment that can meet the instructional demands of the various disciplines. Many of the SCC classrooms have aging A/V systems where the colors of the projector are no longer visible, lack of Blue-ray DVD support, inoperable speakers and microphone, and the video input does not support the standard HDMI input in place in many homes today. These rooms also lack a centralized digital media controller (aka. brains) that allow the instructor to easily switch between media and control all devices. Most of the devices are out of warranty and require complete replacement to stay up to date with emerging presentation and learning technology.

The District's Technology Advisory Group (TAG) has established A/V standards for retrofitting an existing classroom for standard mediation (Appendix C). The standard provides guidelines for retrofitting the A/V of an existing classroom with technology ITS can support and maintain. The SCC Director of Academic Support has priced a typical classroom A/V upgrade that includes an Uteology media system controller for $15,651.16 (Appendix D). Upgrading a classroom is indeed expensive, which in turn makes having a budget (Appendix E) dedicated to upgrading a few classrooms a year very critical. Not doing so will result in an ageing backlog of classrooms needing A/V retrofit at a one-time insurmountable cost and at the expense of quality student instruction.

Student HelpDesk:

Currently, there is not a dedicated student help desk at SCC. In order to address student help requests, the Librarians are acting as the intermediary between student help requests and ITS. When a student comes to the Library, they can bring to the librarian's attention the specific difficulty encountered. If the librarian is unable to assist, they can report this issue to ITS using the Helpdesk system (email: helpdesk@sccollege.edu). The librarian needs to collect information from the student in order to create the helpdesk ticket as follows:

1. User ID (Webadvisor Login)
2. Time when the issue occurred
3. Location where the issue occurred

Students would benefit from a dedicated student help desk for common technology-related concerns.

Webmaster:

The college would greatly benefit from a full-time Webmaster. This individual can assist with a series of duties that are necessary to keep the college website modern, up-to-date, and ADA compliant. The Webmaster will also be charged with the task of monitoring the website, manage new web design implementations, and address all the initiatives pursued by the SCC Web Committee. The Webmaster can strengthen the liaison with ITS web team to collaboratively pursue the aforementioned committee's initiatives. Additional responsibilities of the Webmaster include, but are not limited to:

- Assisting with the support and delivery of training sessions for ADA accessibility compliance to web publishers.
- Facilitating the process of migrating website engines in coordination with the ITS web team and Public Affairs department.
- Assisting new web publishers with web site engine training such as SharePoint.
- Interfacing with web publishers to maintain the quality assurance of the website by correcting broken links and typing errors using the Siteimprove tool.
- Contribute to the continuing need to improve the mobile access to the website content
- Maintain relevant content sharing with the student portal.
- Ensure the website stays current with new technology trends.

Maintaining Up-to-Date Software and Operating Systems (OS):

As the leading software vendors continue to create newer versions of software, the college as an organization stands as one more participant caught on a race to maintain up-to-date software for its operations. The ongoing challenge is to keep all users in a stable software environment somewhere close to the cutting edge, but away from obsolescence. The approach to software upgrades keeps changing depending on the manufacturer's policy. Some vendors provide constant and repeated software updates most of those being small changes. Other vendors wait and push bigger differences between the last version and the newest version of the same software. However, the goal is to maintain the college in full operation with the least amount of difficulties caused by software upgrades, and at the same time, maintain a state of upgradeability that is an acceptable

level of currency.

The ITS department attempts to keep district-wide licensed software upgraded within one version prior to the latest version. Both on the end user and enterprise back end software is maintained at least until there is an acceptable maturity level on the latest version. Examples of end user software are Microsoft Office, Windows OS, Adobe Creative Software, Apple OSx, and so forth. Enterprise back end examples are Microsoft SQL, Microsoft SharePoint, Ellucian Colleague, WebAdvisor, etc. On the academic side, ITS depends on faculty department chairs to find and purchase software upgrades that go along with their curriculum in order to replace the existing instructional software such as "The Virtual Educational Observatory", Maple 10, Minitab 14, etc. The college also maintains software updates to accessibility software tools that enhance the capability of computers to meet accessibility requirements for students with disabilities. Maintaining the currency of a myriad of software and OS is an ongoing technical maintenance initiative for the college.

APPENDICES

APPENDIX A - PIE Technology Funding, 2015 – 2017

TECHNOLOGY FUNDING	
Requested Resource	**Amount**
2016 – 2017	
Accounting Technology Center student computers	$50,000.00
Geographic Information Systems (GIS) software site license	$2,000.00
Chemistry Audio/Video upgrade teacher stations	$10,000.00
Library Articulate Storyboard software	$2,000.00
Mathematics iMAC computers	$10,000.00
Chemistry faculty iMAC computers	$4,000.00
TOTAL	**$76,000.00 (one-time)** **$2,000.00 (ongoing)**
2015 – 2016	
Computers for credit classrooms	$ 231, 800.00
Computers for non-credit classrooms	$70,600.00
Projectors for credit and non-credit	$30,800.00
Computer replacements in library	$246,000.00
Tablet replacement for Math	$9,805.35
Video camera for Communication	$1,995.00
Audio-recording microphone for Communication	$377.50
TOTAL	**$591,377.85 (one-time)**

APPENDIX B – SCC Computer Refresh Budget Annual Costs

SCC Out of Warranty Computer Refresh Costs

LOCATION	TYPE	USE	COST	OUT of WARRANTY QUANTITY			REFRESH COST		
				2017/2018	2018/2019	2019/2020	2017/2018	2018/2019	2019/2020
SCC	PC	Instructional	$1,000.00	559	147	454	$ 559,000.00	$147,000.00	$454,000.00
SCC	Mac	Instructional	$2,400.00	26	2	2	$ 62,400.00	$ 4,800.00	$ 4,800.00
SCC	Mobile	Instructional	$ 400.00	118	2	2	$ 47,200.00	$ 800.00	$ 800.00
SCC	PC	Non-Instructional	$1,000.00	198	34	6	$ 198,000.00	$ 34,000.00	$ 6,000.00
SCC	Mac	Non-Instructional	$2,400.00	6	6	1	$ 14,400.00	$ 14,400.00	$ 2,400.00
SCC	Mobile	Non-Instructional	$ 400.00	5	4	2	$ 2,000.00	$ 1,600.00	$ 800.00
TOTAL SCC				**912**	**195**	**467**	**$ 883,000.00**	**$202,600.00**	**$468,800.00**
OEC	PC	Instructional	$1,400.00	203	69	146	$ 284,200.00	$ 96,600.00	$204,400.00
OEC	Mac	Instructional	$2,400.00				$ -	$ -	$ -
OEC	Mobile	Instructional	$ 600.00				$ -	$ -	$ -
OEC	PC	Non-Instructional	$1,400.00	111	34	6	$ 155,400.00	$ 47,600.00	$ 8,400.00
OEC	Mac	Non-Instructional	$2,400.00				$ -	$ -	$ -
OEC	Mobile	Non-Instructional	$ 600.00				$ -	$ -	$ -
TOTAL OEC				**314**	**103**	**152**	**$ 439,600.00**	**$144,200.00**	**$212,800.00**
GRAND TOTAL				**1226**	**298**	**619**	**$1,322,600.00**	**$346,800.00**	**$681,600.00**

Notes:

Every year that goes by without refreshing out of warranty computers, the amount rolls over to the next year.
This creates an insurmountable situtation of ageing, poorly functioning computers.

APPENDIX C – RSCCD Classroom Audio/Visual Hardware Standard

A/V equipment list for retrofitting an existing classroom for standard mediation.

1. Podium furniture - Spectrum Freedom eLift Lectern w/ ADA compliant height adjustable switch
2. Utelogy Software
3. Projector – 3500 lumens or higher WXGA digital VGA & HDMI inputs
4. Screen - (8 FT Manual) Da-Lite widescreen 16:9 Format
5. Document Camera - Elmo Document Camera TT-12i
6. Speakers - ceiling and/or wall speakers- SAC pair of ceiling speakers - JBLCONTROL26C or pair of wall speakers - JBL Control25AV or JBL Control28AV. SCC - "Bose" 191 Wall/In-Ceiling Speakers 031509 "Virtually Invisible".
7. Blu-Ray/DVD player - Sony Blu-Ray Player – Model # Sony BDP S5200
8. Locking device - BMS Security Lock
9. Projector mount - Ceiling Plate Panel and cable lock for computer and all other AV components
10. Surge protection - Furman power conditioner 15 Amp – Part # CN-1800S
11. Wall plate - External A/V inputs plate for laptop, IPAD/IPOD, camera, Internet and other A/V inputs (HDMI required)
12. System Controller - Crestron 3-Series 4K Digital Media Presentation
13. Touch Screen - Crestron 5" Touch Screen
14. Standard desktop PC & monitor
15. Network port – for projector and podium
16. Switch - Cisco 8 port 10/100 PoE SF-302-08P
17. Power receptacles – projector and podium
18. Raceway for cables
19. Misc. cables, connectors, and hardware

Options below:

1. Microphone - Shure ULX Wireless Systems (Lavalier and Handheld microphone) suggested for large lecture halls
2. PA System - Stand Alone "PA" System w/Speakers mounted in back of classroom to avoid "Feed-Back" & "Maximizing Volume Control" suggested for large lecture halls
3. Cisco IP Phone

APPENDIX D – Sample SCC Classroom Audio/Visual Upgrade Costs

Below is a quote (03/16/2017, Quote# 008177) for updating the A/V for classrooms B-201 and B-207 by GST (gstes.com). The cost proposal includes:

- Supply and install the Campus standard Spectrum instructor's desk with equipment rack. An over-the floor raceway system will be used to run the cables from the rack to the wall.
- Install a desktop PC and monitor furnished by RSCCD. Monitor will be mounted on an articulating arm.
- Supply, install and configure a Utelogy System with network control converter for AV system control. Utelogy configuration includes:
- Supply and ceiling mount a projector. GST will install an electrical outlet at the projector location.
- Supply and wall mount a manual projection screen with a viewable area of 57x92"
- Supply and install an Extron digital AV switcher with built-in audio amplifier.
- Supply and ceiling mount 4ea ceiling speakers.
- Supply and install one wireless Lavalier microphone system and one wired gooseneck microphone.
- Supply and install a cable cubby in the top surface of the desk and create aux HDMI, VGA/Audio and network input cables.
- Supply and install an 8-port unmanaged gigabit network switch. GST will run 1ea network cable from this switch to the IDF. GST assumes there is an available port in the IDF.
- Supply and install a Blu-Ray player.
- Supply and install a document camera.

QUOTE SUMMARY

DESCRIPTION	AMOUNT
AV Firm Fixed Price Services	$5,617.31
Hardware	$23,572.96
Shipping	$216
E-Waste 2017	$18
Subtotal	$29, 424.27
Tax	$1,878.04
2 Classroom Total	$31,302.31
1 classroom estimated total	**$15,651.16**

APPENDIX E – SCC Mediated Room Annual Refresh Costs

SCC Mediated Room Refresh Costs based on 8-year Cycle

LOCATION	USE	QTY	COST	REFRESH FACTOR	2017/2018 COSTS	2018/2019 COSTS	2019/2020 COSTS
SCC	Instructional	127	$ 15,651.00	0.125	$ 248,459.63	$ 248,459.63	$ 248,459.63
TOTAL SCC					$ 248,459.63	$ 248,459.63	$ 248,459.63

Notes:
Noncredit OEC room counts were not available at the time.
SCC non-instructional room counts were not available at the time.
Every year that goes by without refreshing some mediated classrooms, the amount rolls over to the next year.
This creates an insurmountable situation of ageing, poorly functioning rooms.