

2016-2020 TECHNOLOGY PLAN

Southwestern Community College District

Institutional Technology Committee



Table of Contents

Southwestern College Technology Plan.....	3
Technology Planning Process.....	3
Table 1: Groups consulted for Technology Plan Development	4
Contributors to the 2016-2020 Technology Plan.....	5
Table 2: Institutional Technology Committee members	5
Technology Definition	6
Program Review for Technology.....	7
Table 3: Program Review Timeline	7
IT department service and support strategy changes	8
Guiding Values and Principles for Technology.....	8
Table 4: Prioritization Criteria and Weights	10
Technology Goals and Strategies	10
1. Student Access	10
2. Instructional Technology.....	11
3. Student Services.....	11
4. Administrative Computing	12
5. Network Infrastructure	12
6. Technology Support	13
7. Digital Communications	13
Tech Plan Objectives	14
Table 5: Tech Plan Objectives, sorted by Goal areas	15
Top 20 IT Program Review action steps related to Tech Plan Objectives.....	26
Technology Goals and Strategies summary with representative activity.....	27
Table 6: Acronym definitions	28

Appendices

Appendix A: Technology Master Plan 2011 – 2015

Southwestern College Technology Plan

The purpose of the Southwestern College (SWC) Technology Plan is to address college-wide technology, support, and resource planning in order to further the mission, vision, and strategic direction of the College. It is linked with other institutional plans and program reviews for instruction, student services, and administration. The Technology Plan differs from the Institutional Technology (IT) organization plan in that the former focuses on college-wide resources, policies, and strategies and the latter focuses on departmental resources, procedures, and operations. When aspects of the IT organization plan impact college-wide strategies, it will be included in the Technology Plan.

College Mission

Southwestern Community College District, the only public institution of higher education in southern San Diego County, provides services to a diverse community of students by providing a wide range of dynamic and high quality academic programs and comprehensive student services, including those offered through distance education. The College District also stimulates the development and growth of the region through its educational, economic and workforce opportunities, community partnerships and services.

Southwestern Community College District promotes student learning and success and prepares students to become engaged global citizens by committing to continuous improvement that includes planning, implementation and evaluation. The College District provides educational opportunities in the following areas:

- Associate degree and certificate programs
- Transfer
- Professional, technical, and career advancement
- Basic skills
- Personal enrichment
- Continuing education

Technology Planning Process

Building upon the 1993-1998, 1999-2004, 2005-2010, and 2011-2015 plans the SWC Technology Plan for 2016-2020 provides a different and more current perspective than the previous plans. The 2016-2020 Plan is the product of a campus-wide dialogue, based on collaborative research, shared planning and decision-making and is integrated into the work of the Shared Consultation Committee (SCC). The SWC Technology Plan 2011-2015 includes significant parts of the previous plans that served as a foundation for the next five years. The Institutional Technology Committee (ITC) recently reviewed the 2011-2015 plan and used that content to develop the 2016-2020 Technology Plan.

As part of development process, the draft Institutional Tech Plan was taken to all constituent groups for consultation, a number of open forums and meetings were conducted with faculty and staff. Table 1 evidences the scheduling and groups contacted for these information-gathering sessions.

Table 1: Groups consulted for Technology Plan Development

Group	Date
Academic Technology Committee	September 19, 2016
Institutional Technology Department	July 13, 2016
Dean’s Council	October 10, 2016
President’s Cabinet	June 28, 2016
Associated Student Organization	September 1, 2016
Student Services Council	August 15, 2016
Institutional Technology Committee meeting	January 27, 2015
Institutional Technology Committee meeting	February 24, 2015
Institutional Technology Committee meeting	March 24, 2015
Institutional Technology Committee meeting	April 15, 2015
Institutional Technology Committee meeting	April 28, 2015
Institutional Technology Committee meeting	September 15, 2015
Institutional Technology Committee meeting	October 13, 2015
Institutional Technology Committee meeting	October 27, 2015
Institutional Technology Committee meeting	November 10, 2015
Institutional Technology Committee meeting	November 24, 2015
Institutional Technology Committee meeting	December 8, 2015
Institutional Technology Committee meeting	May 10, 2016
Institutional Technology Committee meeting	May 24, 2016

Submission of the SWC Technology Plan to the Academic ... Senate for Approval	September 20, 2016
Submission of the SWC Technology Plan to the Shared Consultation Council for Approval	July 13, 2016
Submission of the SWC Technology Plan to the Governing ... Board for Approval	December 2016

Contributors to the 2016-2020 Technology Plan

The 2016-2020-Technology Plan was developed through the contributions and support of the following Technology team members shown in Table 2 below.

Table 2: Institutional Technology Committee members

Name	Position
Daniel Borges	Co-Chair, Chief Information Systems Officer
Patricia Flores-Charter	Co-Chair, Academic Senate President
Todd Williamson	Online learning Center Representative
Priya Jerome	Superintendent/President or Designee Admin
Paul Norris	IT Computer Operations Supervisor
Allen Chu	Academic Senate Representative
Nelson Riley	SCCDAA President or Designee
Wayne Yanda	SCCDAA Representative
Sam Shuey	CSEA President or Designee
John Vinson	CSEA Representative
Shelly Askren-Frazier	Confidential Representative
Everett Garnick	IT Programming Supervisor

Hector Reyes	IT Lab Support
Tracy Schaelen	Distance Ed Representative
Andre Ortiz	Professional Development Representative
Emily Lynch Morissette	SCEA President or Designee
Mike Swingle	Associated Student Organization Representative
Scott Finn	ATC Representative
Al Garrett	IT Network Administrator
Maria E. Martinez-Sanabria	SCEA Representative Technical Education
Elisabeth Shapiro	Senate ATC Chair

Technology Definition

Southwestern College uses technology and Universal Design principles to support its mission in order to enhance learning and instruction, educational opportunities, personalize student services, and provide effective administrative processes to meet the changing needs of the College and community.

Technology is a broad subject that applies to many aspects of teaching, learning, research, communication, and operations at SWC. Such technologies are typically categorized as instructional technology or administrative technology. The former is associated with resources for teaching and learning (academic) and the latter is associated with resources for communication and operations (administrative). These technologies typically include computers, servers, software, databases, printers, networks, network applications, storage devices, video projectors, video conferencing, and the like. Many such technologies are used for both academic and administrative purposes, e.g., computers, networks, email, etc. Thus, it is necessary for the Technology Plan to address both administrative and instructional technologies.

Some technologies at SWC are specific to academic or vocational courses, such as photovoltaic systems, electronic music keyboards, microscopes, and spectrometers, etc. Such technologies are specialized instruments or tools that are discipline-specific or industry-specific. Indeed, faculty members regularly consult with external advisory councils to ensure the use of relevant technologies in their programs. Furthermore, instructional programs engage in Program Review cycles to evaluate the effectiveness of such technologies and develop plans. Program Review plans are tied to resource allocation processes that provide an avenue of funding for specialized technologies.

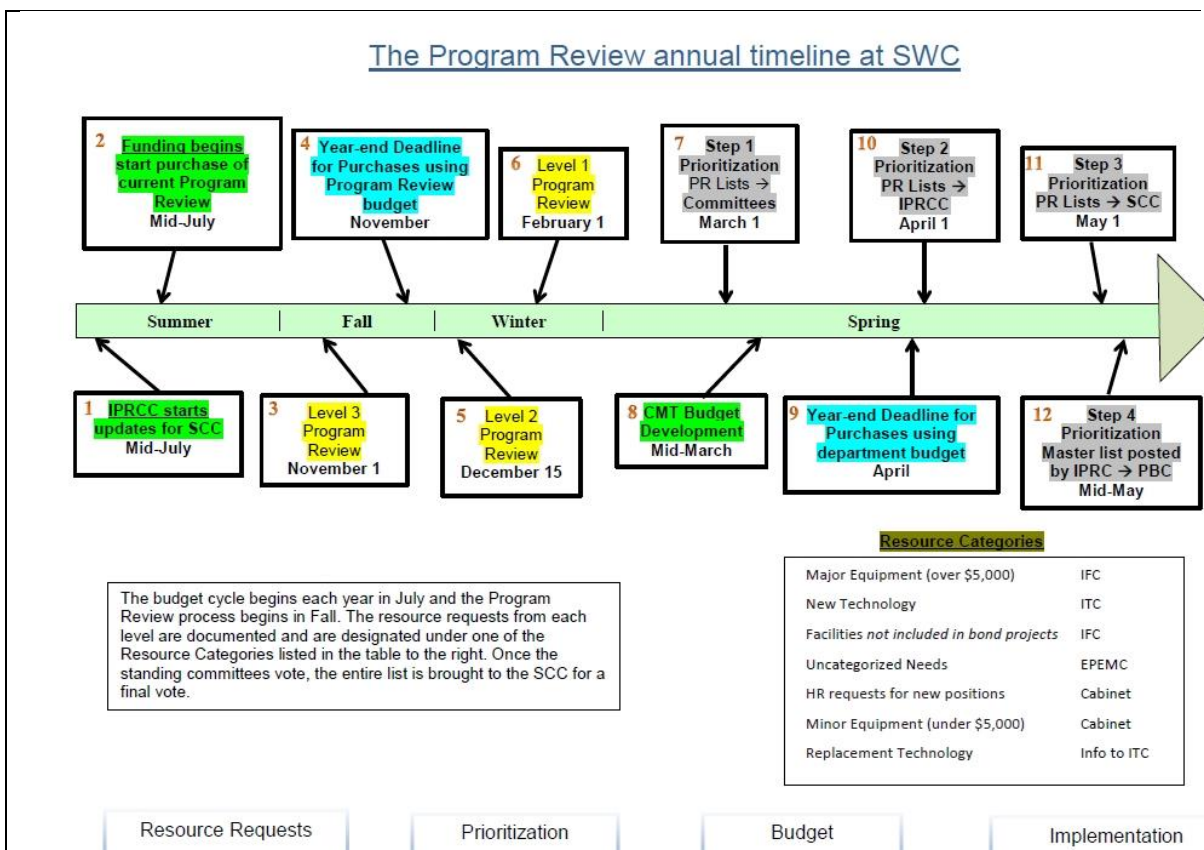
The SWC Technology Plan is focused on planning for instructional and information technology resources that have a broad application across the College. The technology plan addresses how technology resources will be implemented to further the mission of the College and improve institutional effectiveness. This plan does not go so far as to specify the details of all of the specialized

technologies that would be included in program reviews; that is left to the subject experts. However, the Technology Plan addresses how specialized technologies will be integrated with the technology infrastructure and technology support services of the College.

Program Review for Technology

Over the last five years, the Program Review process has been a key component linking planning and budgeting. This annual process is used to determine and document the requirements campus-wide. A prioritization process is part of the cycle as the ITC discussed things such as impact and value to students and the College. The Program Review Timeline can be found in Table 3.

Table 3: Program Review Timeline



This timeline reflects the annual budgeting and procurement process for technology needs of the College. The two primary procurement cycles include specific department requirements which have a year-end deadline in April, and the Program Review deadline in November.

The ITC is a shared planning and decision-making body, and includes key constituent groups from across the campus. The goal of the committee as it relates to the program review process includes completing the prioritization of all technology related Program Review items by March 1st.

IT department service and support strategy changes

Over the last two years, an alignment of IT service and support has taken place to better meet the needs of the College District. These changes have taken place due to basic changes in the technology environment based on where and how effective support is delivered. They fall into three basic categories: Audio visual (AV) for Smart Classrooms, Telecommunications, centralized technology support for Higher Education Centers (HECs), and accessibility compliance related to Section 508.

AV for Smart Classrooms: Technology has changed significantly in this area. Previously the AV technician fell under the Facilities department because projectors were looked as more of a part of a room rather than as a component of Smart classroom technology. As the projector became an integral part of the overall technology in a Smart classroom, there was a need to build collaboration between the Instructional lab technicians and the AV technician who moved into IT in January 2015. This change has led to many improvements including the development of the Smart classroom guidelines which are used to build classroom technology standards at the College District.

Telecommunications: Technology has also changed significantly in the area of Telecommunications. Outdated technology includes large phone switches that are dependent on an extensive two pair wired network. One of the major technology shifts in the last decade includes leveraging an Ethernet network for both data and voice communications. The telephone technician that began in a Facilities department has now migrated into a network technician in the Information Technology department of today. Following industry standards, the Telecommunications position that resided in the Facilities department at SWC has been moved to the Institutional Technology department. Some of the benefits that will develop rise beyond deploying a Voice over IP (VOIP) system with advanced call routing features, additional support for other network services such as wireless networks can also be achieved.

Centralized technology support: To address concerns about communication disconnects between the Institutional Technology department and the Higher Education Center IT staff, the decision was made to move the reporting structure for the HEC IT staff from the Center Deans to the Chief Information Systems Officer (CISO) in July 2016. The goal was to include HEC IT staff in more IT projects and general meetings to improve the consistency of IT services and support at all campus locations.

Accessibility Compliance Specialist: To address concerns about Section 508 compliance, a decision was made to create a new position in the IT department to be referred to the Accessibility Compliance Specialist. This position would serve as a technical liaison between the IT department and the primary departments at the College District including Academic Affairs, Student Affairs and Business and Financial Services to ensure the District's compliance with Section 508.

Guiding Values and Principles for Technology

The College's commitment to technology is translated into a set of guiding values and principles for how technology should be created, managed, and supported. These values and principles will serve as the foundation of any technology development in the district, and they will guide discussions on the suitability of future technology action plans.

Access: Technology will be readily accessible using universal design to all students, faculty, and staff of the College. The College will ensure that all students, faculty, and staff, including those with

disabilities, have required access to computers, software, and technology services. Capabilities will be developed to provide fully functional accessibility to the College and community we serve.

Currency: The College will provide current, up-to-date hardware, software, and communication materials. Policies, procedures, and budgets will be established to ensure technology currency at the College.

Reliable Technology Services: Information and instructional technology accessibility will be delivered via a secure, solidly established, centrally operated, redundant, and robust network and computer infrastructure.

Support Services: The District will provide customer service and training to help the college community access and use technology.

Access to information technology support will be provided to the college community through a variety of venues, e.g., phone, fax, e-mail, online, in-person. The availability of customer support will be continually monitored to provide appropriate staffing and coverage to meet the needs of the college community.

The College will review its technology support based on the following dimensions of customer service:

1. **Flexibility**: Ability to adapt and adjust when and as needed
2. **Responsiveness**: Willingness to help and provide prompt service
3. **Reliability**: Perform the promised service dependably, accurately, and in a timely manner
4. **Assurance**: Knowledge, courtesy, and the ability to convey trust and confidence
5. **Service**: Ability to provide respectful individualized attention

Staffing and Resources: The College will provide the staffing and resources necessary to support and maintain the technology infrastructure, including:

- Hardware
- Software
- Administrative systems
- Course management systems
- Content management systems
- Campus web site
- Faculty, interdepartmental/school websites
- Services
- Training

Planning: The technology objectives of the College need to be aligned with institutional priorities, and the technology planning process of the College needs to ensure a high level of inclusion and interaction. The technology planning process provides an opportunity to accomplish the following:

1. Determine the fundamental technology directions of the College.
2. Identify key strategies in taking the next steps.
3. Clarify the actions needed to help departments, schools, units and the College to achieve their broad missions and goals.
4. Disseminate knowledge about existing technology services, technology needs, and technology

constraints.

5. Evaluate current services and practices, revise, and expand services as needed.

Prioritization Rubric: The following table is the rubric upon which SWC prioritizes technological needs. Program Review drives these prioritizations. However, in the case of state government, federal government, or other funding agency mandates, these technology needs will receive top priority by the College.

Table 4: Prioritization Criteria and Weights

Number	Criteria	Weight
1	Extent to which request is identified in institutional program review	80%
2	Role of the technology in supporting curriculum or College services	10%
3	Extent to which the request represents a collaborative effort to use technology resources more effectively	5%
4	Sustainability of the technology in terms of ongoing support requirements and replacement costs	5%
Maximum Points		100%

Speed: The College will make every effort to ensure the speeds of its network, computers, and telecommunications equipment are in keeping with college and statewide standards.

Innovation and Leveraging Technology: The District will encourage the college community to explore how to use, leverage, and integrate innovative uses of technology in teaching, learning, and college operations.

Technology Goals and Strategies

The Program Review process is part of the fabric not only of the Technology Plan but also a part of the Strategic planning and budgeting aspect of the Southwestern. A structured and complex process is followed each year by all constituents at the District. Table 3 showing the Program Review timeline describes when budget can be used for planned items.

The technology goals and strategies are based upon institutional program review, accreditation standards, an assessment of current needs, internal plans, and a review of external trends in academic and administrative computing in higher education. The technology goals are umbrella statements that provide direction for change. The following implementation grid includes a timeline of specific action items that are measurable activities to further the goals and strategies of the plan.

- 1. Student Access** Provide secure student access to learning resources and support services for all college locations.

- 1.1 Identity Management:** Develop and implement a new user account system that

requires students to individually log into college network resources, such as the wireless network or lab computers.

- 1.2 Computer Lab Operations:** Develop college standards to adequately staff and support all current and future student computer labs. As technology is consistently evolving, the District will support and adapt to those changes.
- 1.3 Computer Lab Hardware and Software:** Conduct ongoing evaluations of the adequacy of student computer lab hardware and software to meet the needs of instructional programs. These evaluations, to include program review plans and the age of the computers, will serve as important criteria for prioritizing the replacement of lab hardware and software.
- 1.4 Online Courses and Programs:** To increase student access, provide the technical infrastructure and support for faculty and students for current and future online courses and programs.
- 1.5 Online Learning and Support Services:** Provide online access to all learning resources and student support services to assure equitable access and to meet identified student needs.
- 1.6 Virtual Desktop Computing:** Develop and implement a cloud-based and/or server-based virtual desktop environment that enables authorized network access to specialized instructional software from any college computer.

2. Instructional Technology Support the success of all students through the development of instructional technologies, including the delivery of instructional media for use on- and off-campus. Instructional materials must meet the electronic and information technology accessibility requirements of Section 508, comply with applicable federal and state laws, and use Universal Design for all people.

- 2.1 Instructor Support:** Provide faculty training, support, and adequate staffing for the development and delivery of instructional technology resources to students on & off-campus.
- 2.2 Online Lectures:** Develop standardized and automated processes for capturing on-campus lectures (audio and/or video and/or lecture resources) to publish online.
- 2.3 Smart Classrooms:** Complete the installation of interdisciplinary new media systems in all relevant classrooms. Then develop new standards for smart classrooms and begin upgrading older classrooms to meet the standards.
- 2.4 Instructional Content:** Develop new processes for efficiently licensing and delivering copyrighted and captioned instructional content to students' on- and off-campus.

3. Student Services Develop, update, and implement Student Services information system and communication services.

- 3.1 Processing Calendar Development:** Develop and review on a periodic basis to determine sustainability and functionality.
- 3.2 Financial Aid:** Conduct ongoing evaluation of Financial Aid services to determine student friendly access and consistency with mandated timelines.
- 3.3 Matriculation:** Update and maintain systems for getting information out to students in a

timely manner through improved technology.

3.4 Reporting Enhancements: Enhance the reporting systems to improve and automate Student Services data and services.

4. Administrative Computing Develop and improve secure and reliable computing systems to increase institutional effectiveness and provide long-term support for campus computing needs.

4.1 Custom Application Development: Standardize the development and maintenance of custom applications for research, instruction, student services, and college operations in order to improve institutional effectiveness.

4.2 Network Application Support: Continue to use the SWC Help Desk and lab techs to centralize user support requests for network applications.

4.3 Hardware and Software Standards: Maintain up-to-date computer hardware and software standards for institutional purchasing and support. Replace computers as determined by Program Review to ensure adequate computing resources for students, faculty, staff, and managers. [ACCJC/WASC 2008 Standards: IIC1d, IIC1c, IID1a. SWC Strategic Plan 2011-2015)

4.4 Access from Off-Campus Sites: Develop a secure, client-less, login method for authorized employees to access network resources from off-campus locations. Ensure that this login method can be applied to future network applications.

4.5 Printer Standards and Support: Develop standards to fund the purchasing, installation, repair, and support of office and lab printers and supplies through a centralized clearinghouse.

4.6 Institutional Software Licenses: Create a centralized clearinghouse for institutional software licensing and require that all software purchases go through it. Provide ongoing funding for software, such as office-productivity, online courses, antivirus protection, website development and content management as determined by Program Review.

5. Network Infrastructure Maintain the network infrastructure to support comprehensive wireless, voice, video, and data communications with high availability and recoverability.

5.1 Wireless Access: Continue implementation of comprehensive wireless access for students, employees and authorized guests throughout all college locations.

5.2 Network Infrastructure Standards: Continue to update network infrastructure standards to be applicable to all existing and new SWC buildings. Implement the new standards to ensure high availability and quality of service for voice, video, and data throughout the College and District.

5.3 Network Management: Implement enterprise level network management tools to

monitor and control all critical network resources at all college locations. Develop emergency response procedures for network outages or attacks.

5.4 Network Storage: Provide secure and centralized network storage, backup, and recovery services to meet the needs of the College. Develop a data archiving and retrieval process.

5.5 Disaster Recovery: Implement a multi-tiered disaster recovery plan to restore access to critical information resources in case of a catastrophic outage. Determine ways to proactively minimize risks.

5.6 Administrative Server Virtualization: Expand and maintain virtual servers to replace physical servers, promote “Green IT,” support disaster recovery, and extend the capacity to offer additional network services and solutions.

5.7 Application Design and Implementation: Provide services and support required to research, analyze, develop, manage, and maintain application projects

6. Technology Support Provide ongoing training, staff, funding, and technology support services to meet the needs of students, faculty, staff, and managers.

6.1 Service Level Agreements: Develop service level agreements (SLAs) at all SWC Help Desk locations. [ACCJC/WASC 2008 Standards: IIC1d, IIIA2, IIIC1a. SWC Strategic Plan 2011-2015.

6.2 Technology Training for Learning and Instruction: Provide ongoing training and support in the use of instructional technologies for students, faculty, and staff.

7. Digital Communications Develop and support multiple, digital means of communication between the college, community, and all constituencies.

7.1 Unified Communications: Coordinate with IT to implement a system that unifies all forms of communication, including voice-mail, email, and emerging technologies.

7.2 District Portal: Research, develop, and implement a district portal for college communications, student communications, and access to college support services and online forms.

7.3 Website Development: Continue to develop the navigational structure and provide adequate support and staff for the SWC website to improve access for all users at all levels of proficiency. Ensure an annual review and update of website accessibility, currency and accuracy of all information on the college website.

7.4 Video Conferencing: Upgrade and support audio and video conferencing resources to connect individuals/groups between SWC and off-site locations.

7.5 Emerging Communications: Experiment with emerging technologies to enhance effective communication and institutional effectiveness.

A summary of all of these goals and strategies can be found in a table format at the end of this report. Along with the actual item, the table shows recent accomplishments or expected activity related to the goal.

Tech Plan Objectives

The Technology Plan Objectives shows the action items, lead manager, performance indicators, and required resources, status & outcome, strategic objectives, and Tech Goals that are necessary to further the goals and strategies of the Technology Plan. Several fields are used to build a linkage to the budget and planning process at the College. The Program Review field shows the action step and required resources object. The Strategic Objective relates the item to the category applicable to the particular action step.

1. Action Step: These are the activities for each of the technology strategies. Each action step has a unique ID.
2. Lead Manager: The person responsible for initiating the action items and overseeing the completion of the activities.
3. Program Review: Content in this field indicates that the action step that has a resource request (budget component) has been defined in the IT department Program Review.
4. Performance Indicators: These describe the major outcome of the action items.
5. Required Resources: Includes estimates that primarily refer to staff/manager time, equipment funding, or existing resources. The time and budget allocations are gross estimates that would be further refined for an actual project proposal.
6. Status and Outcome: Identifies contingencies, dependencies, or other types of in process information that impacts the success of the action step.
7. Strategic Objective: indicates the category and item that most closely relates to the success of the action step.
8. Tech Goals: indicates the specific Technology Goal and Strategy item that applies to the Technology Objective

The Technology Implementation Plan is organized in each of the Technology Goal and Strategy categories. Many of these items become an action item list for at least the Institutional Technology department along with other business units on campus. The specific items in each Goal area of the Tech Plan Objectives can be seen in Table 5.

Table 5: Tech Plan Objectives, sorted by Goal areas

STUDENT ACCESS

	Action Step	Lead Manager	Program Review	Performance Indicators	Required Resources	Status & Outcome	Strategic Objective	Tech Goals
A1	Develop and implement new user accounts for student access to wireless, lab computers and online courses. <u>Issue:</u> concern student security if user leaves Blackboard & WebAdvisor and does not log out.	CISO		Students use the new system to log on to wireless network, lab computers, and eventually online courses, etc.	Controller / appliance. Also 500 hours for 12 months to implement; 8 hours per week for ongoing maintenance and user support. Use existing student domain servers and storage.	Improved communication and contact with 80% or more of students	IT&R 4,5 SA 1,3	1.1
A2	Explore options and pilot cloud-based computing environment for student access from lab computers. Make SW library for licenses, create clearinghouse	CISO	AS 1, RR 1 \$55K	Conduct a pilot cloud-based computing within labs.	Google Apps has been linked to Active Directory	IP with Google Apps, Improved student access to instructor	IT&R 1,4,5 T&L 1 SA 1,3	1.6
A3	Develop and Implement new policies and procedures for installing updated software in student computer labs	CISO		Documentation of new policies and procedures for updating software in computer labs.	80 hours to develop the policies and procedures; 120 hours per semester to implement.	IP, part of ongoing operations. Improved efficiency	IT&R 1,4,5 T&L 1	1.2 1.3
A4	Compare costs and advantages of cloud-based computing environment within labs or server based software	Dean of ISS	AS 1, RR 2 \$300K	Cloud-based access from labs	ongoing license costs (TBD); 20 hours per week for ongoing maintenance and user support;	Pending analysis, faster and more effective lab management	IT&R 4,6	1.6

INSTRUCTIONAL TECHNOLOGY

	Action Step	Lead Manager	Program Review	Performance Indicators	Required Resources	Status & Outcome	Strategic Objective	Tech Goals
B1	Develop Smart classroom deployment plan for interdisciplinary new media systems and support in the classrooms, labs, and meeting rooms.	CISO	AS 2, RR 2 \$400K	Percentage of classrooms with current technology	100 hours needed for analysis.	Inventory indicates, Improved instructional space to assist students	IT&R 4,5 SA 1,3	2.3
B2	Software site licenses for Camtasia and other frequently needed software	VPAA	AS 2, RR 1 \$70K	Determine software needs, create software inventory method	Requires budget for software licenses, need to identify existing software plan	Need plan with timeline, to improve access to software	SA 3 T&L 1	1.3 4.3 4.6
B3	Develop and implement new procedures for timely captioning of all instructional media content, including for online and face to face courses. Provide training for faculty and staff. Ensure Web content compliance	VPAA		Documentation of procedures for efficiently licensing, captioning and showing videos in online courses.	DSS is responsible for administering DECT grant to facilitate captioning of all instructional videos; the library is working on captioning DVDs.	Need plan with timeline, provides ADA compliance with Section 508	SA 3 T&L 1	2.2 2.4

STUDENT SERVICES TECHNOLOGY

	Action Step	Lead Manager	Program Review	Performance Indicators	Required Resources	Status & Outcome	Strategic Objective	Tech Goals
C1	Create a Continuing Education application/registration web application	Dean of ISS		Development of application and implementation.	20 hours per week for application processing.	Implement Instant Enrollment with CE.	IT&R 1,5,6	1.5
C2	Explore a process to provide students with unified communication and information dissemination e.g., Face book, Twitter, email	Dir of A&R		Improved Student communication	50 hours initially for set-up and use; ongoing administrative management for 20 per week.	In Process - Portal, Improves student access	SA 1,3 IT&R 1,4,5	7.1
C3	Ongoing improvement to MIS reporting, including matriculation data collection for improved accuracy using Data Warehouse as a management tool	Dir of Research		Improve mandated reporting. Include FTES, MIS, Enrollment, Cal Works and transcripts	Sufficient staffing to monitor plan outcomes. Upgrade to CROA to improve Business Analytics capability.	Implement de-centralized reporting structure, Colleague is single source	IT&R 1,2,5	3.3 3.4
C4	Develop online forms for students to register for events or apply for services. Develop technical standards for accessible entry, submission, confirmation, auditing, security, storage, approval, workflow, data protection, archiving, etc.	VPSA	AS 3, RR 1 \$65K	All popular college and district student forms are available online.	Dependent on scope of project.	Need to standardize platform. FA "transform" system is a pilot.	SA 4 SS 3, 4 IT&R 5	1.1 4.3
C5	Implement online credit and non-credit positive attendance tracking. Reporting for faculty and State reporting.	Dir of A&R		comprehensive positive attendance tracking systems that results in accurate reports	Funding needed for positive attendance software replacement and staffing; technical support at positive attendance tracking location. Custom programming required	Analysis required by A&R	IT&R 1,5,6	3.4 4.1
C6	Positive Attendance Tracking: Develop, expand, and support SARS Suite applications (Track, Grid, Call, Alert, eSARS) for managing student appointments and tracking student services.	Dean of Counseling		SARS Suite applications are installed and supported as needed.	20 hours per week for ongoing maintenance and user support; annual license renew cost of \$20K. Implement SARS message.	SARS anywhere on hold	SA 1 SS 3	3.4

	Action Step	Lead Manager	Program Review	Performance Indicators	Required Resources	Status & Outcome	Strategic Objective	Tech Goals
C7	Automate Calgrant & CA Dream Act processing	Dir Fin Aid		Automate the processing of applications. Reduce time to acceptance.	IT or contract programming staff. Fin Aid staff for testing.	Holding for resource allocation.	IT 4	3.2
C8	eForms implementation (separate from C.4 as this is funded through BFAP and not available to other units)	Dir Fin Aid		Streamline document processing. Increase student access.	Lexmark (contract services), IT, Financial Aid, BFAP funded	Analysis of products suitable for SWC underway.	SA 3 SS 1,2,3 IT 1	3.2 7.1
C9	Title IV disbursements based on required coursework.	Dir Fin Aid		Compliance issue.	Ellucian contract services, Financial Aid, BFAP funded	Waiting for resource allocation.	SS 2 IT 1	3.2
C10	Notification and alerts via texting	Dir Fin Aid		Quicker student access to information; awards, disbursement , requests	Financial Aid, IT. Plan to expand use of Regroup messaging services.	Regroup onsite with Portal Guard, now need implementation for SA.	SA 3 SS 1,3 IT 1	3.2 7.1

ADMINISTRATIVE COMPUTING

	Action Step	Lead Manager	Program Review	Performance Indicators	Required Resources	Status & Outcome	Strategic Objective	Tech Goals
D1	Implement Campus Portal	Director A&R	AS 4, RR 1 \$85K	Students and staff have a single contact point on-line for all things SWC.	Users in departments will need to be trained for proper management of content. IT resources necessary for technical implementation. Consulting services for proper implementation.	Portal developed, going live spring 2017	SA 1,2 SS 1,2,3 TL 1 HR 1,2 IT&R 1,3,4,5	1.1 1.4 1.5 3.2 3.3 7.1 7.2
D2	Migrate to SQL from unidata and upgrade all programming and reporting to current standards.	CISO	AS 4, RR 2 \$150K	Users should see no difference in the look and feel but everything will be R18 compatible.	IT technical personnel for all tasks. Extensive user testing required.	Plan has been defined, project is funded, waiting for resource availability.	IT&R 4	4.1 4.3
D3	Develop online employee evaluation and tracking tool	CISO	AS 4, RR 3 \$50K	Enable simple communication and tracking with employees	NEOGOV selected	Accreditation Compliance, plan for 1/2017	IT&R 4	4.1
D4	Replace iStrategy to eliminate old system and move dashboards to Colleague Reporting and Operating Analytics	CISO	AS 4, RR 4 \$70K	New dashboards will look somewhat different but will provide same functionality.	Research and IT to lead the way. Current users of iStrategy retraining necessary.	Plan implement in 2017. Will contract for dashboards	TL 5,5 OE 1,2,4	3.4 4.3 7.2
D5	Implement the Assignment Contract Tracking component of Colleague	Dir of HR		Allows for automating calculation, and payment, of faculty contracts	Resources from all responsible units- especially HR and the school secretaries to ensure faculty and positions are set up correctly.	In Process/Under evaluation	PFR 5 OE 4	5.7
D6	Re-implement VATEA survey	Dean of ISS		Improved collection of VATEA data from source. Improved basis for VATEA funding.	Programmer and VATEA specialist. Admissions & Records staff.	Data analysis is required.	PFR 5 IT&R 1,5	4.1

	Action Step	Lead Manager	Program Review	Performance Indicators	Required Resources	Status & Outcome	Strategic Objective	Tech Goals
D7	Develop an online application for program reviews (Instruction, Student Services, Administration) based on the new forms and processes; design for future integration with other college planning and resource allocation databases.	Dean of ISS		A college-wide accessible system for entering, tracking, and archiving via digital machine-readable means, annual program review.	1,500 hours, depending upon the design specifications; 20 hours per week for ongoing maintenance and user support; use existing server and storage resources.	Under review in IPRC-eLuman is currently the product of interest.	IT&R 1,6	4.1
D8	Implement a resource scheduling application that integrates with Colleague to provide detailed information about room scheduling, inventory and space utilization	VPAA	AS 4, RR 5 \$65K	Schedulers can use this system to schedule classes, meetings, performances, etc., and get room reports.	District to provide estimate of staff time; 120 hours to input resource information; ongoing license costs; staff training; ongoing maintenance and support.	Need to expand use of room chart app which will happen with IEPI enrollment management	IT&R 5,6 OE 3	4.1
D9	Implement on-line Benefits module	VPHR		Integration of benefit information in the HR module.	Funding, consulting, 80 hours.	Not yet implemented, started with EAP	IT&R 5	5.7
D10	Implement scheduling application	Dean of ISS		Improved productivity and organization will provide cleaner process	\$50K and contribution from all areas on campus especially including Instruction and Facilities	IEPI enrollment management app may provide solution.	IT&R 4,5	4.1
D11	Implement time and attendance tracking online module with WebAdvisor	Dir of HR	AS 4, RR 6 \$30K	Successful submissions of payroll data	Funding, consulting from County, 160 hours.	Don't have time entry on WebAdvisor.	IT&R 5,6 OE 3	5.7
D12	Develop and implement a HRT electronic workflow	Professional Development		Forms successfully submitted to HR	Funding, consulting, 160 hours.	Colleague HR workflow	IT&R 5	5.7
D13	Implement the Assignment Contract (ACO) Tracking component of Datatel - Position Control. Look at load pay formula	Dir of HR	AS 4, RR 7 \$45K	Contracts are created electronically through Colleague	24 months - change Chart of Accounts to baseline of Colleague standards.	working Fiscal Independence issues	PFR 5 OE 4	5.7
D14	Organize and implement a campus wide Data Standards Group	Dir of Research		Regular meetings and feedback from Colleague users	Time for Colleague users to meet. Power User Group	Data	TR 5 HR 1,2	5.7

	Action Step	Lead Manager	Program Review	Performance Indicators	Required Resources	Status & Outcome	Strategic Objective	Tech Goals
D15	Develop Online Budget development and put Budget transfer process online	VPBFA	AS 4, RR 8 \$35K	Chart of Accounts changed	Funding, consulting. 12 months.	SWC has the software from Ellucian	PFR 1,5	5.7
D16	Create and implement a course scheduling module that is web-based (Curricunet)	Dean of ISS		Web-based course scheduling module; improved efficiency of scheduling with paperless process.	The Enrollment Management focus of the IEPI project should be analyzed for compliance.	IEPI enrollment management app may provide solution.	TR 6 OE 3	4.1
D17	Implement Position Control/Management	Dir/VP HR		Implement functionality built into Colleague. Provide tight control of positions for management and reporting.	HR, IT, Possible vendor training.	Status not yet available	HR 1 PFR 1 OE 1,2 IT 1	5.7
D18	Onboarding/Offboarding on-line: employee perspective	Dir/VP HR		Streamline processes to make them easier and more functional for employees and HR department	Possible purchase through NEOGOV or other.	Status not yet available	HR 1,2 IT 1	4.1
D19	Direct update of employee data from self-service (as specified by HR)	Dir/VP HR		Direct update eliminates re-entry errors and speeds update of information	Possible WebAdvisor update functionality or eForms related project.	Status not yet available	HR 1,2 IT 1	4.1 7.1
D20	On-line method to prepare and submit requests and report for travel and expenses among others. (eForms management system)	Dir/VP HR		Simplify and streamline processes. Speed processing.		Status not yet available	HR 1,2 IT 1	4.1 7.1

NETWORK INFRASTRUCTURE

	Action Step	Lead Manager	Program Review	Performance Indicators	Required Resources	Status & Outcome	Strategic Objective	Tech Goals
E1	Upgrade the electrical back-up system to provide power for important network services and related devices in case of a power outage (Replacement of existing UPS and determine SLA for supplying temporary power)	CISO	AS 5, RR 1 \$200K	Operational servers remain accessible during power outages. Need a complete site survey, quadrupled run-time and additional "shutdown" clients, especially VMWare-aware clients.	An electrical generator and power system that is connected to the main distribution center. Approximate cost for UPS - \$100k	In Process, looking at IT move to a different building on campus	IT&R 4,5	5.5
E2	Develop a multi-tiered disaster recovery plan to restore access to critical information resources in case of a catastrophic outage	CISO		An approved disaster recovery plan.	120 hours to complete plan	IP with DR Project	IT&R 5	5.5
E3	Establish secure offsite storage of all backups and archive data files; establish process for destruction of data storage. Get new SNAP servers	CISO	AS 5, RR 2 \$40K	Secured storage implemented: DR site is HEC-OM	Funding and secure storage location. Need replacement for outdated SNAP servers	IP with DR Project	IT&R 5	5.4 5.5
E4	Acquire and implement an enterprise level network monitoring and managing systems at all college locations;	CISO	AS 5, RR 3 \$55K	Readily monitor and control all necessary network traffic. Partially implemented.	Enterprise level network monitoring and management servers and software; 240 hours for research and installation at all college locations.	In Process with DR project	IT&R 5,6	5.3
E5	Implement a two-factor authentication method for staff and faculty	CISO	\$35K (Not Funded)	Improved security	160 hours to explore and pilot a new system. 4 hours per week for ongoing maintenance and user support.	Need Identity Management System	IT&R 4,5	1.1
E6	Implement a plan to remove older data from the SWC network storage arrays	CISO		Positive percent usage	80 hours	Design IT process	IT&R 5	5.2 5.4
E7	Provide additional network storage space for employees;	CISO		Ample storage space for documents	Short-term solution \$20K for the expansion of the technologies; 60 hours to install.	IP with SAN	IT&R 5	5.3 5.4

	Action Step	Lead Manager	Program Review	Performance Indicators	Required Resources	Status & Outcome	Strategic Objective	Tech Goals
E8	Implement network bandwidth shaping to prevent one type of traffic, such as video, from overwhelming all other types of traffic such as web browsing	CISO		The network will not be overly congested by one type of traffic, such as video.	160 hours to research and install; 4 hours per week for ongoing maintenance and user support.	Needed?	IT&R 4,5	5.2 5.3
E9	Re-implement Microsoft Project Server	CISO		Provides tools to assist with Project Management			IT&R 4,5	4.1
E10	Virtual Desktop Infrastructure	CISO		Provides consistent and efficient lab images	Network team on infrastructure and Instructional Lab technician team on the client side	Requires significant investment in time and money	IT&R 4,5	1.3, 1.6

TECHNOLOGY SUPPORT

	Action Step	Lead Manager	Program Review	Performance Indicators	Required Resources	Status & Outcome	Strategic Objective	Tech Goals
F1	Desktop and AV annual upgrade project	CISO	\$500K (Funded)	Replace obsolete hardware	250 hours of IT time	Improved efficiency	IT&R 4,5	1.3
F2	Analyze and deploy a new Work Order system to replace Heat. Look for collaboration with Facilities	CISO	AS 6, RR 1 \$85K	Number of work orders for each staff member	80 hours to develop the plan; 16 hours per week to implement the plan; 8 hours per week for ongoing maintenance and user support.	Improves productivity and organization	IT&R 4,5	4.2
F3	Desktop and multifunction printer analysis	CISO		Decrease in cost for consumables	40 hours to develop the plan; bring vendor on campus to run page count analysis	Save money on consumables	IT&R 4,5	4.5
F4	Develop service level agreements (SLAs) for the Help Desks for all SWC locations (HELP Desk only in Maintenance and IT at this time). Develop Service Catalog	CISO		SLAs to cover the major functions of the Help Desks.	80 hours for the development of each SLA.	Better customer communication	IT&R 4,5	6.1
F5	Development of policies, procedures, and guidelines for college-wide technology requests, usage, services and support to be included in the SWC Procedures manual as applicable	CISO		Users will have a better understanding of technology policies and procedures.	Also 40 hours to develop the plan; bring vendor on campus to run page count analysis		TR 3,5,6 PFR 3 TL 1	1.2 2.1 2.3 2.4 4.3 4.5 4.6 5.2 6.2

DIGITAL COMMUNICATIONS

	Action Step	Lead Manager	Program Review	Performance Indicators	Required Resources	Status & Outcome	Strategic Objective	Tech Goals
G1	Implement a one-card security system for universal access to all District spaces,	Dir of Facilities	AS 5, RR 5 \$250K	Centralized access to building	Funding. Infrastructure. Technical system development.	Improved security with more management & control	IT&R 4,5	5.7
G2	Exchange 2013 and calendar utilization rollout	CISO		software upgrade is required	200 hours from IT	More effective communication and efficiency	IT&R 4,5	5.7
G3	Provide additional audio and video conferencing resources	CISO		Available audio-video conferencing resources for meetings spanning both locations.	Additional software -based systems or portable video conferencing units); 4 hours of support per meeting.	In Process with 100A upgrade project	IT&R 4,5	7.4 7.5
G4	Establish district-wide project to unify communications for voice, email, and emerging technologies	CISO	AS 7, RR 1 \$450K (Funded)	Unified communication system	Funding	Need VOIP	IT&R 4,5	7.1
G5	SharePoint development team to provide knowledge and training to District on best practices	CISO		PD to train Users	150 hours from IT	Better adoption of SharePoint	IT&R 4,5	2.1 6.2
G6	Review and implement Self Service Copier Card Reader by which access to SWC's self-service copiers is controlled	OSS Supervisor		Users trained and using process for self-copying	80 hours from IT	Increased productivity	IT&R 4,5	5.7

To summarize the projects and to identify the various Action Steps along with each Resource Request from the IT Program Review are reference in the last section of the Tech Plan. That information is then cross referenced with not only the District's Strategic Priority but also with the Tech Plan objectives.

Top 20 IT Program Review action steps related to Tech Plan Objectives

Item	AS & RR	Pri	Amount	Category	Status Summer 2016	Tech Plan Objectives
Disaster Recovery	5 / 2	1	\$35K	Network Infrastructure	95% complete as of 6/16/16	E1, E2, E3
Academic equipment upgrade	2 / 2	2	none	Instructional Technology	50 projectors Summer 16	B1
District portal	4 / 1	3	\$85K	Admin Computing	Student email IP 6/29/16	D1, E5
Deploy new work order system	6 / 1	4	\$85K	Technology support	RFP IP	F2, F4
Employee evaluation tool for HR	4 / 3	5	\$50K	Admin Computing	IP 7/1/16	D3
iStrategy replacement app	4 / 4	6	\$65K	Admin Computing	Phase 1 (BO) done 4/1/16	D4
SQL migration	4 / 4	7	\$150K	Admin Computing	Server received 6/29/16	D2
Google email for students	1 / 1	8	\$55K	Student Access	Google docs online 4/1/16,	A1, A2
eForms application	3 / 1	9	\$65K	Student Services	Analysis needed	C8
Site license for software	2 / 1	10	\$70K	Instructional Technology	Analysis needed	B2
Data Center Infrastructure	5 / 1	11	\$150K	Network Infrastructure	Fire, UPS, Gen: need Analysis	E1, E2, E3
Room schedule application	4 / 5	12	\$65K	Admin Computing	Phase 1 6/15/16	D9, D11
Time & Attendance Reporting	4 / 6	13	\$30K	Admin Computing	Analysis needed	D12
Assignment Contracts	4 / 7	14	\$45K	Admin Computing	Analysis needed	D14
Online budget report tool	4 / 8	15	\$35K	Admin Computing	Synoptics server 6/15/16	D15, D16
Replace old SNAP servers	5 / 2	16	\$25K	Network Infrastructure	Server received 6/15/16	E6
Deploy App monitor system	5 / 3	17	\$35K	Network Infrastructure	IP: Splunk & Solarwinds	E4
Building access and security	7 / 1	18	\$250K	Digital Communications	Security Bldg IP 6/27/16	G1
Replace phone system with VOIP	7 / 1	19	\$450K	Digital Communications	Telco to IT 7/1/16	G4
Virtual Desktop Infrastructure (VDI)	1 / 2	20	\$300K	Student Access	Waiting for opportunity	

Technology Goals and Strategies summary with representative activity

1. STUDENT ACCESS
 - 1.1 Identity Management (PortalGuard connected to AD: 8/16)
 - 1.2 Computer Lab Operations (Defined responsibilities of lab team: spring 16)
 - 1.3 Computer Lab Hardware and Software (Update to Ghost: 8/16)
 - 1.4 Online Courses and Programs (OLC testing Canvas: 8/16)
 - 1.5 Online Learning and Support Services (Testing SSO for Blackboard: 8/16)
 - 1.6 Virtual Desktop Computing (Building bandwidth of network team: 3/16)
2. INSTRUCTIONAL TECHNOLOGY
 - 2.1 Instructor Support (Change phones to dial out in lectures and labs)
 - 2.2 Online Lectures (DE Training for Camtasia: 8/16)
 - 2.3 Smart Classrooms (AV upgrade project, 50 rooms updated: summer 16)
 - 2.4 Instructional Content (DECT-grant use to make videos closed captioned)
3. ENTERPRISE RESOURCE PROGRAMS FOR STUDENT, ACADEMIC, & BUSINESS AFFAIRS
 - 3.1 Processing Calendar Development (Room charts under IEPI: 8/16)
 - 3.2 Financial Aid (Student self-service modules: 6/16)
 - 3.3 Matriculation (Evaluating Common Assessment Initiative (CAI))
 - 3.4 Reporting Enhancements (CROA and Dashboards: future plan)
4. ADMINISTRATIVE COMPUTING
 - 4.1 Custom Application Development (FTES reports for AA: 8/16)
 - 4.2 Network Application Support (Delivered Exchange 2013 migration: 7/16)
 - 4.3 Hardware and Software Standards (Setup online HP/Mercury integration)
 - 4.4 Access from Off-Campus (Enhanced VPN and more browser apps (OWA))
 - 4.5 Printer Standards and Support (Planning printer site survey)
 - 4.6 Institutional Software Licenses (Adobe site license: 6/14, Camtasia 10/16)
5. NETWORK INFRASTRUCTURE
 - 5.1 Wireless Access (Redesigned infrastructure: 7/16)
 - 5.2 Network Infrastructure Standards (Created Network Section 27 doc: 5/13)
 - 5.3 Network Management (Deployment of SolarWinds and Splunk: 8/16)
 - 5.4 Network Storage (Implemented 3PAR SAN: 2/16)
 - 5.5 Disaster Recovery (Deployed DR site: 6/16)
 - 5.6 Administrative Server Virtualization (Converted to new blades: 10/15)
 - 5.7 Application Design and Implementation (Smartsheet project tracking: 8/16)
6. TECHNOLOGY SUPPORT
 - 6.1 Service Level Agreements (Implementing ServiceNow: 10/16)
 - 6.2 Tech Training for Instruction (Planning Smart Classroom videos: 11/16)
7. DIGITAL COMMUNICATIONS
 - 7.1 Unified Communications (Telco to IT 7/16, VOIP pending 2017)
 - 7.2 District Portal (Student email on 9/16, portal spring 17)
 - 7.3 Website Development (508 accessibility updates: 6/16)
 - 7.4 Video Conferencing (Setup S/P conference room: 7/16)
 - 7.5 Emerging Communications (Skype for business: future plan)

Table 6: Acronym definitions

Acronym	Definition	Acronym	Definition
SCC	Shared Consultation Committee	SP	Strategic Plan
ITC	Institutional Technology Committee	SS	Student Success (SP)
SWC	Southwestern College	AA	Academic Affairs
IT	Institutional Technology	OE	Organizational Effectiveness (SP)
ATC	Academic Technology Committee	IT&R	Institutional Technology & Research (SP)
HEC	Higher Education Center	T&L	Teaching and Learning (SP)
AV	Audio Visual	PFR	Physical and Financial Resources (SP)
CISO	Chief Information Systems Officer	EAP	Ellucian Action Plan
AS	Program Review Action Step	ACO	Assignment Contracts
RR	Program Review Resource Request	IP	In Process
ISS	Instructional Support Services	HR	Human Resources (SP)
OSS	Office Support Services	SA	Student Access (SP)
DE	Distance Education	SLA	Service Level Agreements
OLC	Online Learning Center	DR	Disaster Recovery
SSO	Single Sign On	OWA	Outlook Web Access
IEPI	Institutional Effectiveness Partnership Initiative	ACCJC	Accrediting Commission for Community and Junior Colleges
CAI	Common Assessment Initiative	FTES	Full Time Equivalent Students
CROA	Colleague Reporting and Operational Analytics	WASC	Western Association of Schools and Colleges
SA	Student Affairs		
SAN	Storage Area Network		
VPN	Virtual Private Networking		