2015-2020

Saddleback College Technology Plan

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I. EXECUTIVE SUMMARY

Saddleback's vision is to become the first choice of students who seek a dynamic, innovative, and student-centered postsecondary education. The college uses an array of technology, technological systems, and software to assist in meeting its vision, mission, and goals. The Technology Services department provides technology support in the areas of data network administration, desktop computers, IP telephones, software and database support, data storage, server administration, web administration, private cloud services, SharePoint, audio-visual services, IP-based cameras, learning management system, application development, print management, electronic medical records, access-control, and instructional computer labs.

Saddleback promotes an environment of universal access across all technology services throughout the college and district. The technology plan and all its objectives must ensure universal access across all technology services. Additionally, all applicable educational, state, and federal laws and codes must be adhere to during the implementation of this plan and technologies. The Technology Committee is the governance committee that engages in discussions regarding all college technology matters. The membership of the committee has broad representation from all college constituents.

The primary funding of all technology investments are through general fund unrestricted (010), restricted (011), or BAARC funds (040). The Annual Planning Prioritization & Resource Allocation Process is the college process for the request of general fund funding of new technology requests. Technology funding requests for 040 fund go through the Basic Aid Allocation and Recommendation Committee (BAARC), which makes the final recommendation to the Chancellor. During the development of the technology plan, there were a number of institutional plans consulted. Additionally, student, faculty, staff, and manager surveys were conducted and open-forums were held to collect information that guided the development of the goals and objectives.

This five-year plan is lofty and has eight technology goals with thirty-four objectives. The eight technology goals are:

1. Design, enhance, and maintain infrastructure to support the technological needs of students, faculty, staff, and management based on the fast-evolving technological landscape
2. Develop, enhance, and maintain technological systems that will enable the college to deliver all onsite services online
3. Research, test, and implement various technologies that enhance student experiences and support student success

4. Enhance all classroom technology and develop an environment supportive of 21st century technology and up-to-date technology-based instructional tools
5. Cultivate an environment of technical proficiency through professional development opportunities for all faculty, staff, and management
6. Ensure integrity, security and availability of data and technologies
7. Support the expansion of community service, college awareness, outreach and distance learning functions of Saddleback broadcast properties KSBR-FM and Channel 39
8. Support quality and growth in online education for all courses and programs

The technology plan underlines the importance of proper staffing levels to ensure the implementation of the plan and the adequate level of support for the technology. The technology committee also developed and approved replacement plans, standards, and projected future technology expenditures.

II. INTRODUCTION

Saddleback College, as a dynamic, diverse community of learners and innovators, seeks to empower students, faculty, staff and management through effective utilization of information technology. This will be accomplish through the implementation of the Saddleback College Technology Plan. The term "technology" is defined as all computer hardware, software, and technology infrastructure essential to the delivery of information (gathering, storing, retrieving, communicating, or displaying) in text, image, or digitized form. Technology includes both academic and administrative computing systems as well as related software, instructional delivery systems (e.g. internet, multimedia, data, and video distribution), communications links, telephone systems, computer networks, and all integrated systems and software, which support the above items.

The 2015-2020 Technology Plan provides a strategic pathway to guide the campus forward in its implementation of technology.

Specific areas of college technology support are categorize as follows:

Data Network Administration

- Routers
- Firewalls
- Network Switches
- Wired Infrastructure
- Wireless Access Points
- Network Access Control

Desktop Computers

- Faculty, Staff and Administrative Computers
- Student Computer Labs and Classrooms
- Open Access/General Use Computers

Telephones

- Adds, Moves, and Changes
- Call Handlers/Phone Trees
- Voicemail
- Fax Lines

Software & Database Support

- End User Support and Training
- District Application Support
- College Specific Software & Database Installation and Support

Data Storage

- College Data Storage
- Storage Area Network Management
- Data Backup

Server Administration

- Instructional Servers
- Administrative Servers

Web Administration

- Manage College Web Servers
- Design and Update College Web Site
- Web Applications

College SharePoint Services

- Manage College SharePoint Servers
- SC Cloud-Services

Audio Visual Services

- Board Room Equipment Operation & Support
- Classroom Media Support
- Equipment Maintenance
- Equipment Installation
- Trouble Shooting
- Outdoor Media Systems
- System Maintenance
- System Operation
- Media Services
- Video Duplication

PoE IP-Based Camera

- Configure, Maintain, and Support Cameras and Servers
- Integrate Cameras with Alarm & video analytics

Learning Management System

- Support and Train

Applications Development

- Develop and Maintain In-House Applications

Printing Management

- Maintain and Support All Printers
- Support All Printing Management Services

Electronic Medical Records

- Support and Maintain System

PoE Access-Control System

- Maintain all the Servers and AD Integration
- Support all Door POE Access-Control System
- Support Integration into Camera System

Instructional Computer Labs

- Collaborate with Instructors to Develop Images
- Trouble Shoot
- Software Installation and Configuration

III. MISSION, VISION, & VALUES

The technology plan supports and facilitates the overarching mission, vision, and values of Saddleback College.

Mission

Saddleback College enriches its students and the south Orange County community by providing a comprehensive array of high-quality courses and programs that foster student learning and success in the attainment of academic degrees and career technical certificates, transfer to four-year institutions, improvement of basic skills, and lifelong learning.

Vision

Saddleback College will be the first choice of students who seek a dynamic, innovative, and student-centered postsecondary education.

Values

Saddleback College embraces:

Commitment

We commit to fulfilling our mission to serve the south Orange County community.

Excellence

We dedicate ourselves to excellence in academics, student support, and community service.

Collegiality

We foster a climate of integrity, honesty, and respect.

Success
We place our highest priority on student learning and delivering comprehensive support for student success.

Partnership
We strive to develop strong and lasting partnerships among students, faculty, staff, and the community.

Innovation
We anticipate and welcome change by encouraging innovation and creativity.

Academic Freedom
We endorse academic freedom and the open exchange of ideas.

Sustainability
We promote environmental sustainability and use our resources responsibly to reduce our ecological impact.

Inclusiveness
We cultivate equity and diversity by embracing all cultures, ideas, and perspectives.

Global Awareness
We recognize the importance of global awareness and prepare our students to live and work in an increasingly interconnected world.

We value diversity and equality for all individuals. We promote an environment of universal access across all technology services throughout the college and district. This Technology Plan and all its objectives must ensure universal access across all technology services. Additionally, all applicable educational, state, and federal laws and codes must be adhere to during the implementation of this plan and technologies.

The overarching vision through the implementation of the goals is to develop all software to operate in most commonly used browsers and be operating system agnostic with responsive design.

IV. GOVERNANCE, TECHNOLOGY FUNDING, AND PLANNING PROCESS

The Technology Committee is the governance committee that engages in discussions regarding all college technology matters. Its membership, decision-making process, scope and other related items are listed below. The committee creates and approves the original Technology Plan, reviews it annually, and makes appropriate changes as needed.

Technology Committee

Purpose

To engage in collaborative discussions regarding college technology, disseminate information to the campus community, empower students, faculty, and staff through the deployment and availability of technology resources, consider the concepts of universal access and design, and provide direction for technology that advances and supports our strategic plans.

Definition of Terms

The term technology is defined as all software, hardware, and technology infrastructure that is essential to the delivery of information in digital format, text, or image—including gathering, storing, retrieving, communicating, or displaying this information. Technology includes both academic and administrative systems as well as related software, instructional delivery systems (e.g. multimedia, data and voice distribution), communication links, telephone systems, and all integrated systems and software that support the above.

Meeting Dates and Time

Every month on the 1st and 3rd Thursday of the month from noon – 1pm in the President's Conference room.

Scope

- Keep abreast of the latest advance in educational technology
- Provide input on strategic direction for college technology and district processes
- Review and prioritize district-wide technology projects
- Ensure alignment of technology recommendations with College strategic plans
- Provide recommendations to the Resource Allocation Committee regarding college requests for new technology
- Provide a forum for technology discussion and exchange of ideas
- Provide recommendations on College wide technology issues
- Disseminate (college and district) technology information to constituent groups
- Review and assess all computer labs for efficiency, review utilization and potential multiple use
- Review/Approve the college technology plan

Membership

- Chair: Director of Technology Services
- Academic Senate Representative
- Classified Senate Representative
- 2 Faculty Representatives
- ASG Representative
- CSEA Representative
- Alternate Media Specialist
- Dean of Online Education
- Student Services (Dean/Manager)
- Instruction (Dean/ Manager)
- Director of College Broadcast Services

Decision-Making Process The committee uses consensus as the primary tool for making decisions and recommendations. In the rare event that consensus cannot be reached and there is an urgency to provide a decision, the committee may utilize majority vote as a final determination in establishing a recommendation.
Communication Process SharePoint and two-way communication by committee representatives to constituent groups.
SharePoint Site https://sharepoint.saddleback.edu/t/default.aspx

The college uses these two primary forms of funding for technology projects:

1. General Fund
    a. Unrestricted: 010
    b. Restricted : 011
2. Basic Aid or Capital Outlay Fund: Fund 40

The Annual Planning Prioritization & Resource Allocation Process is the college process for the request of funding of new technology. This process uses primarily general fund for the funding of technology requests approved. The process is outlined in Exhibit A.

All technology funding requests for Basic Aid or fund 40 are initiated at the colleges or district services. Each entity follows its own process for creation and prioritization of each request. All entities' technology requests for Basic Aid funding are discussed and prioritized at the district-wide technology committee. The Basic Aid Allocation and Recommendation Committee (BAARC) makes the final recommendation to the Chancellor. The complete process is outlined in the flow chart listed in Exhibit B.

The college's strategic planning organizational chart is listed in Figure 1.

V. PLANS CONSULTED

Saddleback College Strategic Plan 2014-2020

Enrollment Management Plan (high schools, retention, basic skills to college level, certificates & degrees)

Student Equity Plan 2014

Facilities 20-Year Master Plan

Economic and Workforce Development Plan 2015-2020

District-wide Strategic Plan 2014-2020

District-wide Technology Plan 2015-2020

National Educational Technology Plan

VI. CAMPUS-BASED RESEARCH

College-wide Open Forums

The committee wanted to maximize the opportunities for the collection of data and therefore decided to have two open forums. The first forum was conducted during the evening and the second forum was conducted during the lunch hour. This provided an opportunity for morning and evening stakeholders to attend open forums.

- Open Forum #1: Student Services Center 212—November 18, 2014 (Evening Event)
- Open Forum #2: President's Large Conference Room—November 20, 2014 (Lunch Event)

Internet Technology Plan Blog

An additional data-gathering method was the use of a technology plan blog. The blog was accessible during the open forums allowing stakeholders to contribute to the discussion from anywhere with internet access.

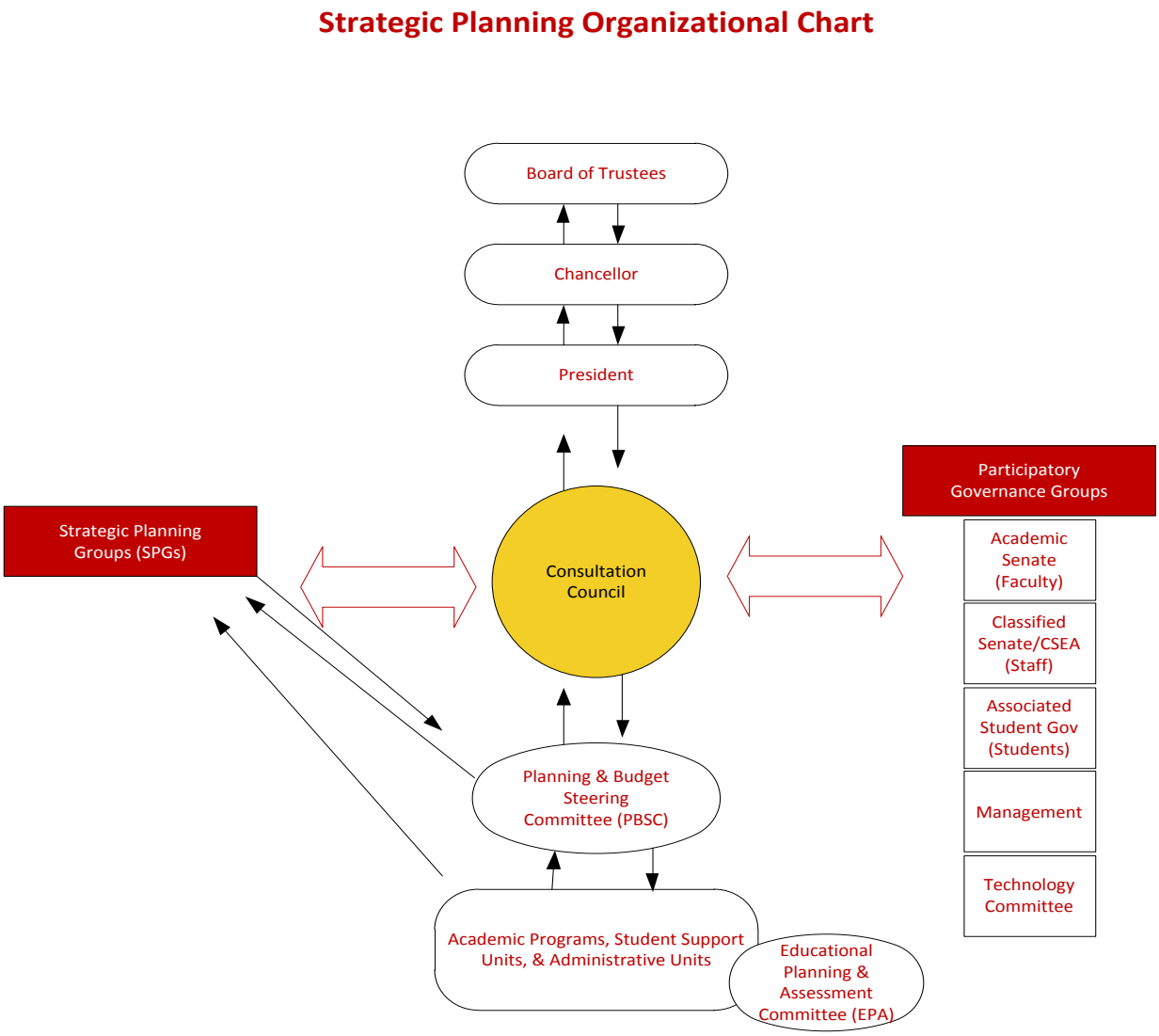

Figure 1. Strategic Planning Organizational Chart

Surveys

The concept of conducting college-wide surveys was discussed at length in the technology committee during the fall 2014 semester. The data collected from our surveys guided the development of the goals and objectives. The committee worked jointly with the research department to create questions that would assist in acquiring the proper data the committee was seeking. It was agreed that three different surveys would be

distributed targeting the various campus stakeholders. The three surveys below were distributed in the fall 2014 semester.

- Student Technology Survey (Fall 2014)—Exhibit C
- Faculty Technology Survey (Fall 2014)—Exhibit D
- Staff/ Management Technology Survey (Fall 2014)—Exhibit E

VII. TECHNOLOGY DEFINITIONS

Bandwidth = The range of frequencies within a given band, in particular that used for transmitting signals, such as computer network traffic.

Gaucho Box = A private cloud service similar to DropBox that is accessible to all Saddleback employees.

Internet of Things = The development of the Internet in which everyday objects have network connectivity, allowing them to send and receive data (e.g. irrigation system, lighting system, etc.)

LMS = Learning Management System. This is the system utilized by our professors to provide online instruction, hybrid, or simply as a repository for electronic material provided to students.

Saddleback App Store = A private cloud service that offers all available and procured institutional applications to Saddleback employees.

Streaming System = a method of transmitting or receiving data (especially video and audio material) over a computer network as a steady, continuous flow, allowing playback to proceed while subsequent data is being received.

VDI = Virtual Desktop Infrastructure. The practice of hosting a desktop operating system within a virtual machine (VM) running on a centralized server.

VLAN = Virtual Local Area Network. A group of devices on one or more LANs that are configured to communicate as if they were attached to the same wire, when in fact they are located on a number of different LAN segments.

VIII. 2015-2020 GOALS, OBJECTIVES & ACTION STEPS

College Strategic Goal #2 Saddleback College will promote students' success by enhancing the teaching and learning environment	SOCCCD Technology Plan Goal #1 SOCCCD Technology Plan Goal #3

Technology Goal 1

Design, enhance, and maintain infrastructure to support the technological needs of students, faculty, staff, and management based on the fast-evolving technological landscape

Objective Number	Due Date	Responsible Party
Objective 1.1 Make the wireless network ubiquitous throughout the campus and support the full throughput of video (SS, FS, S&MS) Action Steps: 1.1.1 Create a BAARC funding request 1.1.2 Create project scope and begin project 1.1.3 Assess coverage and make changes as needed	Spring 2017	Director, Technology Services and Broadcast Systems
Objective 1.2 Create a streaming system with LMS integration Action Steps: 1.2.1 Conduct an analysis of all requirements with multiple departments 1.2.2 Understand the bandwidth and hardware requirements 1.2.3 Convert all videos (i.e. DVD, VHS) to digital format 1.2.4 Acquire all rights for legal streaming 1.2.5 Implement system and provide training	October 2017	Director, Technology Services & Broadcast Systems
Objective 1.3	October 2018	Director, Technology Services & Broadcast Systems

Develop a private Saddleback cloud to deliver an array of services <u>Action Steps:</u> 1.3.1 Create a Gaucho Box 1.3.2 Create a Virtual Desktop Infrastructure 1.3.3 Create a Saddleback App Store		
Objective 1.4 Enable the infrastructure for the "Internet of Things" <u>Action Steps:</u> 1.4.1 Create VLAN categories for all "Internet of Things" to keep them separated and secured 1.4.2 Connect HVAC with proper configuration of VLAN 1.4.3 Connect Irrigation system with proper configuration of VLAN 1.4.4 Connection LED lighting with proper configuration of VLAN 1.4.5 Increase bandwidth as needed from workstation to Internet to keep up with demand	December 2016	Director, Technology Services & Broadcast Systems
Objective 1.5 Explore and implement smart parking technology <u>Action Steps:</u> 1.5.1 Analyze various smart parking technology 1.5.2 Analyze and study alternatives 1.5.3 Review with Technology Committee 1.5.4 Create standards for smart parking technology 1.5.5 Request BAARC request if decided 1.5.6 Implement if feasible	August 2020	Director, Technology Services and Broadcast Systems in collaboration with: • Sr. Director, Facilities • Chief of Police

Objective 1.6 Explore gunshot recognition technology to better secure our campus <u>Action Steps:</u> 1.6.1 Analyze all options available, software & hardware requirement, and facilities requirements 1.6.2 Analyze and study alternatives 1.6.3 Create BAARC request, if required 1.6.4 Implement if feasible	September 2018	Chief of Police in collaboration with: • Director, Technology Services and Broadcast Systems
Objective 1.7 Expand video management systems with analytics for license plate recognition (S&MS) <u>Action Steps:</u> 1.7.1 Analyze all options available and software & hardware requirement 1.7.2 Develop a standard and process for data access and deletion 1.7.3 Create BAARC request or other form of funding 1.7.4 Implement if feasible	September 2018	Chief of Police in collaboration with: • Director, Technology Services and Broadcast Systems
Objective 1.8 Install a new data center to house all crucial institutional data <u>Action Steps:</u> 1.8.1 Conduct analysis by 3rd party to ensure due diligence on selection 1.8.2 Review outcome of analysis with Technology Committee 1.8.3 Develop implementation plan	March 2017	Director, Technology Services and Broadcast Systems Office of Planning, Research, and Accreditation (O.P.R.A)
Objective 1.9	December 2020	Director of Facilities Chief of Police

Migrate from physical keys to electronic access-control Action Steps: 1.9.1 Work is selecting the correct technology 1.9.2 Assessment of required hardware and software 1.9.3 Deploy in new buildings 1.9.4 Create a deployment plan 1.9.5 Deploy based on plan		Director of Technology Services and Broadcast Systems

College Strategic Goal #2 Saddleback College will promote students' success by enhancing the teaching and learning environment	SOCCCD Technology Plan Goal #1 SOCCCD Technology Plan Goal #2

Technology Goal 2

Develop, enhance, and maintain technological systems that will enable the college to deliver all onsite services online

Objective Number	Due Date	Responsible Party
Objective 2.1 Support the development and expansion of online tutoring through collaboration with the Tutoring Center (SS) Action Steps: 2.1.1 Work with subject specific departments to support their online tutoring needs 2.1.2 Expand online tutoring support for basic skills students	December 2017	Dean, Online Education and Learning Resources Director, Learning Assistance Programs
Objective 2.2 Research and implement systems that enable professors to deliver all classroom assignments and assessments digitally (SS) Action Steps: 2.2.1 Develop easy to use systems and processes that enable the conversion of new or existing class material to digital format (SS) (FS)	July 2018	Dean, Online Education and Learning Resources Director, Technology Services & Broadcast Systems Faculty Center

2.2.2 Analyze all options available, software & hardware requirement, and facilities requirements 2.2.3 Analyze and study alternatives 2.2.4 Create BAARC request, if required 2.2.5 Implement if feasible		
Objective 2.3 Enable access to high quality software and hardware for web conferencing and video conferencing tools to all Saddleback employees, including individual desktops and designated conference rooms (FS) <u>Action Steps:</u> 2.3.1 Provide high quality cameras and microphones for each employee's computer college-wide and conference rooms 2.3.2 Research best fitting video conferencing system 2.3.3 Develop training documentation and deploy to all employees college-wide 2.3.4 Implement college-wide	August 2017	Director, Technology Services & Broadcast Systems

College Strategic Goal #2 Saddleback College will promote students' success by enhancing the teaching and learning environment	SOCCCD Technology Plan Goal #1 SOCCCD Technology Plan Goal #2

Technology Goal 3

Research, test, and implement various technologies that enhance student experiences and support student success

Objective Number	Due Date	Responsible Party
Objective 3.1 Engage cellular companies to establish strong cell coverage from all major carriers <u>Action Steps:</u> 3.1.1 Analyze existing contracts	March 2018	Director, Technology Services and Broadcast Systems

3.1.2 Contact cellular companies without a cellular antenna on campus 3.1.3 Get contracts and have them reviewed by facilities, VP of admin services, and President 3.1.4 Create a five-year contract and implement cellular antennas 3.1.5 Inform and advertise to all students and employees		
Objective 3.2 Research customer relationship management (CRM) software and engage in discussions on implementation <u>Action Steps:</u> 3.2.1 Form work group 3.2.2 Analyze and compare CRM software 3.2.3 Review with Technology Committee 3.2.4 Submit BAARC request, if required	December 2016	Dean, Enrollment Services and Director, Technology Services and Broadcast Systems
Objective 3.3 Research potential of rental of electronic textbooks for students (SS) <u>Action Steps:</u> 3.3.1 Discuss item with college bookstore 3.3.2 Advertise existing services to students	August 2016	Director, Technology Services and Broadcast Systems
Objective 3.4 Explore options for making tablets available for students to checkout (FS) <u>Action Steps:</u> 3.4.1 Research topic with Deans 3.4.2 Conduct an informal assessment of faculty interest through Deans meetings and Chairs	September 2017	Director, Technology Services and Broadcast Systems

3.4.3 If enough interest, discuss logistics with checkout of tablets with library 3.4.4 Identify a suitable location for tablet student checkout 3.4.5 Create checkout forms and ways to retrieve 3.4.6 Create policy on the support for these tablets 3.4.7 Implement program if feasible		

College Strategic Goal #2 Saddleback College will promote students' success by enhancing the teaching and learning environment	SOCCCD Technology Plan Goal #1 SOCCCD Technology Plan Goal #2	
Technology Goal 4 ***Enhance all classroom technology and develop an environment supportive of 21st century technology and up-to-date technology-based instructional tools***		
Objective Number	**Due Date**	**Responsible Party**
Objective 4.1 Replace and update all classroom equipment to meet new technology standards (FS) <u>Action Steps:</u> 4.1.1 Submit a request for BAARC funding 4.1.2 Create a contract with a project management firm for the development of the RFP 4.1.3 Create list of all classrooms, conference rooms, and meeting rooms by division 4.1.4 Discuss list of priorities with Deans and managers 4.1.5 Select a contractor from RFP	January 2018	Director, Technology Services and Broadcast

4.1.6 Implement upgrades based on established priority list		
Objective 4.2 Keep all instructional software current and relevant as needed and requested by professors for effective instruction (FS) Action Steps: 4.2.1 Assigned tech to consult with faculty members every semester on software requirements 4.2.2 Create a software replacement schedule 4.2.3 In conjunction with faculty members, update software to stay current	December 2016	Director, Technology Services and Broadcast
Objective 4.3 Implement lecture-capturing technology with ability for professor to easily turn on/off, ensuring ease of use for both instructors and students. (FS) Action Steps: 4.3.1 Research the lecture capture market 4.3.2 Invite top companies to conduct a demo for the Technology Committee 4.3.3 Top three companies to conduct demo with mostly faculty and Deans in attendance 4.3.4 Review infrastructure and equipment requirements 4.3.5 Submit BAARC request for funding 4.3.6 Implement lecture capture technology, if feasible and approved	May 2020	Director, Technology Services and Broadcast
Objective 4.4 Explore the expanded use of 3D printing currently available and increase awareness of its utility (FS)	September 2017	Director, Technology Services and Broadcast in collaboration with Glen Stevenson

Action Steps: 4.4.1 Review existing 3D printing throughout campus 4.4.2 Discuss with faculty and management areas to expand 4.4.3 Advertise existing technology 4.4.4 Expand where necessary and feasible		
Objective 4.5 Implement "follow-me" printing for user mobility—print anywhere, anytime from any device—student print stations Action Steps: 4.5.1 Research market and options 4.5.2 Conduct demos of products and include LRC staff 4.5.3 Select vendor 4.5.4 Work through purchasing process 4.5.5 Implement and advertise to students and staff	September 2016	Director, Technology Services and Broadcast

College Strategic Goal #1 Saddleback College will foster an environment characterized by creativity, innovation, respectful interactions, and collaboration	SOCCCD Technology Plan Goal #2	
Technology Goal 5 ***Cultivate an environment of technical proficiency through professional development opportunities for all faculty, staff, and management***		
Objective Number	**Due Date**	**Responsible Party**

Objective 5.1 Explore and continue online training opportunities for all college employees Action Steps: 5.1.1 Get an assessment of employee needs 5.1.2 Identify offerings 5.1.3 Secure funding 5.1.4 Implement strategy and access as required	October 2018	Dean, Online Education and Learning Resources Professional Development Committee Director, Technology Services and Broadcast Systems
Objective 5.2 Emulate and make available short three to five minute training videos for all software and hardware systems Action Steps: 5.2.1 Make inventory of all software and hardware 5.2.2 Select technology 5.2.3 Select location of storage and webpage location 5.2.4 Create videos 5.2.5 Post them on webpage 5.2.6 Advertise to all college community	May 2020	Director, Technology Services and Broadcast

College Strategic Goal #1 Saddleback College will foster an environment characterized by creativity, innovation, respectful interactions, and collaboration	SOCCCD Technology Plan Goal #1	
Technology Goal 6 ***Ensure integrity, security and availability of data and technologies***		
Objective Number	**Due Date**	**Responsible Party**

Objective 6.1 Research and implement best security practices safeguarding data from inception to deletion <u>Action Steps:</u> 6.1.1 Provide user education and awareness training of secure passwords, virus/spyware avoidance, and data handling policies 6.1.2 Implement secure connections and use of digital certificates wherever possible to protect data from being monitored or manipulated by unauthorized parties 6.1.3 Configure firewalls, gateways, intrusion detection devices, and monitoring software to block and screen for Distributed Denial of Service attacks, viruses, unauthorized intrusion, port scans and other attacks 6.1.4 Implement data loss prevention measures and file auditing to monitor and track data breaches, and alert system administrator 6.1.5 Ensure data is stored in an encrypted format, where appropriate, to protect private and confidential information 6.1.6 Destroy sensitive data when it is no longer needed and in cases of asset disposal or transfer	August 2017	Director, Technology Services and Broadcast Systems
Objective 6.2 Store data locally or use cloud-based data storage in adherence to U.S. laws <u>Action Steps:</u> 6.2.1 Draft standards with the Technology Committee 6.2.2 Make the standards part of the Software Acquisition process district-wide 6.2.3 Inform all employees about the software acquisition process	March 2018	Director, Technology Services and Broadcast Systems

6.2.4 Have an attorney come and discuss the potential issues during an event that is well attended (e.g. breakfast, flex-week, etc.)		
Objective 6.3 Explore off-campus business continuity options Action Steps: 6.3.1 Configure firewalls, gateways, intrusion detection devices, and monitoring software to block and screen for Distributed Denial of Service attacks, viruses, unauthorized intrusion, port scans and other attacks 6.3.2 Implement data loss prevention measures and file auditing to monitor and track data breaches, and alert system administrator	May 2019	Director, Technology Services and Broadcast Systems

College Strategic Goal #1 Saddleback College will foster an environment characterized by creativity, innovation, respectful interactions, and collaboration College Strategic Goal #2 Saddleback College will promote students' success by enhancing the teaching and learning environment	SOCCCD Technology Plan Goal #1

Technology Goal 7

Support the expansion of community service, college awareness, outreach and distance learning functions of Saddleback broadcast properties KSBR-FM and Channel 39

Objective Number	Due Date	Responsible Party
Objective 7.1 Adopt high definition broadcasting technology for KSBR-FM Action Steps: 7.1.1 Consult with engineer regarding necessary equipment upgrades. 7.1.2 Obtain quotes for equipment and software.	Spring 2017	Director, Broadcast Services in collaboration with Director, Technology Services and Broadcast Systems

7.1.3 Identify funding sources for equipment purchases. 7.2.4 Contract with engineer for equipment installation.		
Objective 7.2 Expand live streaming capacity of channel 39 <u>Action Steps:</u> 7.2.1 Consult with engineer and video technicians about needed upgrades. 7.2.2 Obtain quotes for equipment and software. 7.2.3 Identify funding sources for upgrade purchases. 7.2.4 Contract with engineer for equipment installation.	Fall 2017	Director, Broadcast Services in collaboration with Director, Technology Services and Broadcast Systems
Objective 7.3 Enable live event origination capability for channel 39 <u>Action Steps:</u> 7.3.1 Consult with video technicians regarding needed equipment. 7.3.2 Obtain quotes for equipment and software. 7.3.3 Identify funding sources for upgrade purchases.	Fall 2017	Director, Broadcast Services in collaboration with Director, Technology Services and Broadcast Systems
Objective 7.4 Expand Saddleback media delivery to “smart” devices such as Android and iPhone <u>Action Steps:</u> 7.4.1 Consult with video technicians, engineering and Saddleback Technology Services.	Spring 2017	Director, Broadcast Services in collaboration with Director, Technology Services and Broadcast Systems

7.4.2 Obtain quotes for recommended equipment and application development. 7.4.3 Identify funding sources for upgrade purchases.		

College Strategic Goal #1 Saddleback College will foster an environment characterized by creativity, innovation, respectful interactions, and collaboration College Strategic Goal #2 Saddleback College will promote students' success by enhancing the teaching and learning environment	SOCCCD Technology Plan Goal #1 SOCCCD Technology Plan Goal #2

Technology Goal 8

Support quality and growth in online education for all courses and programs

Objective Number	Due Date	Responsible Party
Objective 8.1 Coordinate with all stakeholders and departments to ensure uniform, quality support for all users in online education <u>Action Steps:</u> 8.1.1 Solicit needs from each division 8.1.2 Analyze best practices and plans from other sources and institutions 8.1.3 Develop a draft of plan 8.1.4 Vet the draft with all stakeholders and make revisions as needed 8.1.5 Finalize the draft and vet/approve through shared governance processes	May 2017	Dean, Online Education and Learning Resources Faculty Center Faculty Coordinator for Online Education
Objective 8.2 Procure, maintain and promote the use of instructional technologies to support online education <u>Action Steps:</u> 8.2.1 Develop a protocol for requesting, piloting and integrating new technologies	Ongoing, May 2020	Dean, Online Education and Learning Resources Faculty Center Faculty Coordinator for Online Education

8.2.2 Request, via resource allocation process, a special fund for instructional technologies each semester to support ongoing requests from faculty members. 8.2.3 Per established protocol, hold period workshops to promote the use of pilot technologies and to explore options for college-wide availability and adoptions.		
Objective 8.3 Support professional development opportunities to promote quality growth in online education <u>Action Steps:</u> 8.3.1 Hold regular workshops on course design and navigation for new online instructors 8.3.2 Explore incentives for online certification for instructors (such as @ONE, Quality Matters) 8.3.3 Offer specialized training for departments/divisions 8.3.4 Offer training and workshops in a variety of modes, including online, in-person, and webinars/videos	Ongoing, May 2020	Dean, Online Education and Learning Resources Faculty Center Faculty Coordinator for Online Education
Objective 8.4 Align with and integrate statewide standards and accreditation guidelines for online education. <u>Action Steps:</u> 8.4.1 In collaboration with Standard 1-4 chairs, establish a work group to review and respond to accreditation standards for DE 8.4.2 Provide a needs assessment through work group, including an action plan 8.4.3 Work with stakeholders and shared governance toward implementation of action plan to fulfill accreditation standards.	Ongoing, May, 2020	Dean, Online Education and Learning Resources

IX. STAFFING

The 21st century has seen remarkable advancements in technology and Internet-based products. The "Internet of Things" continuous to touch various aspects of college operations. The irrigation system is now connected to the Internet. Lighting is now connected to the Internet. The HVAC system is on the Internet. Our health center is now using electronic medical records. The police department has implemented PoE cameras, instructional technology has exploded, and our student services areas have integrated vital information systems to streamline and enhance services to our college community.

The infusion of technology in all college operations relies heavily on technical experts to assist in design, selection, deployment, training, and maintenance, and has created a high demand on existing college technical professionals to keep up with all this demand. Some years ago, California tasked the Gartner Group with creating a Total Cost of Ownership (TCO) model, which takes into consideration the number of college computers and FTEs. Applying that model to Saddleback, the college would require an additional seventeen more technical professionals to support the current infrastructure. This plan would like to emphasize the need to fund and hire appropriate level of technical human resources to keep up with the demands of the college. The lack of these resources can have negative effects on technical projects, construction, support, and overall operations of the college.

X. REPLACEMENT SCHEDULES, PROJECTED EXPENDITURES, & STANDARDS

Computer Classroom (Instructional Lab) Replacement Schedule—Exhibit F

Employee and Operational Systems Replacement Schedule—Exhibit G

College Audio/Visual Standards—Exhibit H

Projected Technology Expenditures—Exhibit I

EXHIBIT A

Saddleback College

ANNUAL PLANNING PRIORITIZATION & RESOURCE ALLOCATION PROCESS

This process is for **new requests only.** Replacement and refresh will be addressed in the individual plans regarding technology, equipment, facilities and non-faculty human resources.

Criteria for Submitting Request:

1. Need is documented in most recent Program or Administrative Unit Review (PR/AUR) (submitted by December 31, 2011)
    a. Reference the page numbers where the need is referenced in the PR/AUR in the resource request.

-OR-

2. Request is an identified tactic for implementation of the 2010-13 Strategic Plan
    a. Reference the tactic number as stated in the Strategic Plan in the resource request.

Resource Request Process: (approx. dates)

1. **January 31st.** Dept. chairs, faculty coordinators, and unit managers submit requests for NEW equipment, technology, facilities and non-faculty human resources to the administrator or manager. The administrator or manager may add additional requests for their area.

2. **Level 1 review:** Administrator/manager meets with department chairs, faculty coordinators, classified staff representation, and unit managers, as a group, to prioritize requests, by type, for their area.

3. **February 28th. Level 2 review:** Administrators/managers submit their prioritized requests to their Vice President and President (or designee). Each branch (Instruction, Student Services, and Admin/Ops) will meet to prioritize the requests, by type, for each "Branch". If a division's priorities are changed, written explanation will be provided.

4. **March 21st. Level 3 review:** Each branch will submit their consolidated list of requests, by type, to the College Resource Committee (CRC). CRC will distribute the Technology list to the Technology Committee and the Facilities list to the Safety and Facilities Committee for feedback prior to considering the requests.

5. **April 15th. Level 4 review.** CRC will meet and create a single, unified list of "College-wide Resource Needs", by type. CRC will plan in a manner that maximizes the efficient use of available resources. E.g. shared positions, equipment etc.

6. **May 15st.** PBSC will review CRC recommendations to ensure accuracy and adherence to process only and submit recommendation to Consultation Council.

7. **May 31st**. Consultation Council will review and make a recommendation to the President.

8. **May through August.** PBSC will review budgets and recommend funding to apply to CRC priorities as appropriate.

Proposed CRC Membership:

- Vice President for Administrative Services (Chair; Non-voting)
- Vice President for Instruction
- Vice President for Student Services
- 2 Academic Senate Representatives
- 1 CSEA Representative
- 1 Classified Representative

Guideline for Prioritization (all levels):

These guidelines are designed to guide conversations between parties at each of the three levels during the process.

1. Health & Safety issues Rise to the top (will define)
2. Legal Mandates (will define)
3. Directly related to the Strategic Plan
4. Quantifiable/Evidence based urgency
    a. Ramifications if request is not funded
    b. Availability of alternatives to meet the need
    c. Solutions previously attempted
5. Opportunities to combine requests and/or share resources
6. Sustainable support
7. Impact/Numbers served

EXHIBIT B

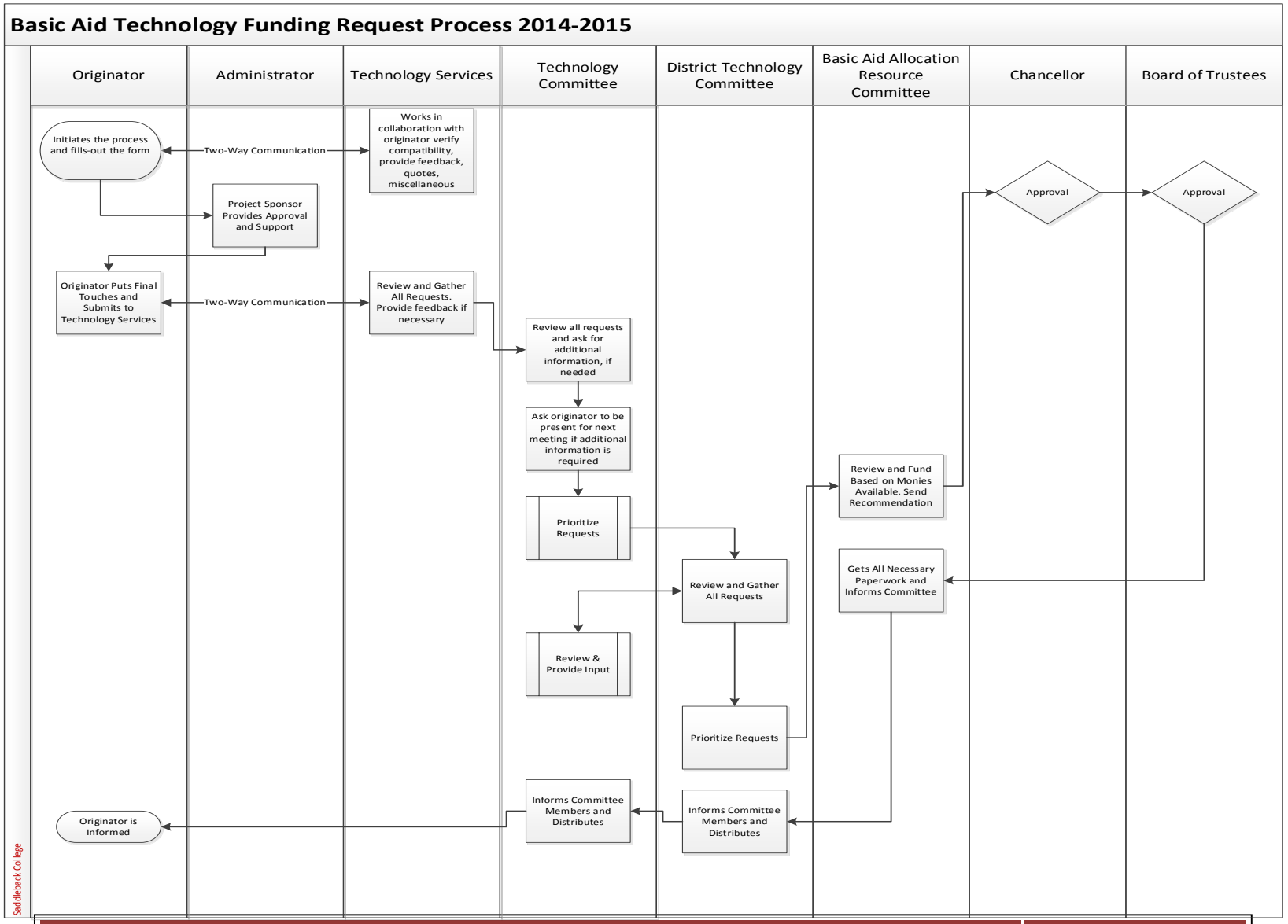
Basic Aid Technology Funding Request Process 2014-2015
Originator
Administrator
Technology Services
Technology Committee
District Technology Committee
Basic Aid Allocation Resource Committee
Chancellor
Board of Trustees
Initiates the process and fills-out the form
Two-Way Communication
Works in collaboration with originator verify compatibility, provide feedback, quotes, miscellaneous
Approval
Approval
Project Sponsor Provides Approval and Support
Originator Puts Final Touches and Submits to Technology Services
Two-Way Communication
Review and Gather All Requests. Provide feedback if necessary
Review all requests and ask for additional information, if needed
Ask originator to be present for next meeting if additional information is required
Review and Fund Based on Monies Available. Send Recommendation
Prioritize Requests
Gets All Necessary Paperwork and Informs Committee
Review and Gather All Requests
Review & Provide Input
Prioritize Requests
Informs Committee Members and Distributes
Informs Committee Members and Distributes
Originator is Informed
Saddleback College

EXHIBIT C

STUDENT SURVEY QUESTIONS

1. In what kind of class do you use Blackboard? (Check all that apply)
    a. Hybrid____
    b. Face-to-Face____
    c. Fully Online____
    d. All of the Above____

2. To what extent is your hybrid or face-to-face class(es) integrated with Blackboard?
    a. Not integrated at all (do not use Blackboard)
    b. Somewhat integrated (grades may be posted)
    c. Moderately integrated (announcements, grades and class content posted occasionally)
    d. Completely integrated (announcements, grades, discussion boards, class content etc. updated frequently)

3. How important is having class materials made available on Blackboard?
    a. Very Important
    b. Important
    c. Somewhat Important
    d. Not Important

4. How satisfied are you with how your current classes make materials available on Blackboard?
    a. Very Satisfied
    b. Satisfied
    c. Somewhat Satisfied
    d. Not Satisfied

5. How important is Blackboard in helping you achieve your academic goals?
    a. Very Important
    b. Important
    c. Somewhat Important
    d. Not Important

6. How many third-party websites (not Blackboard) do your classes require the use of for instruction, homework, etc.?
    a. 0
    b. 1-2
    c. 3-4
    d. 5+

7. How important is it to have third-party websites integrated into Blackboard?
    a. Very Important
    b. Important
    c. Somewhat Important

d. Not Important

8. Do you feel class materials, resources, etc. should be centralized and stored in Blackboard?
    a. Yes
    b. No

9. If you have used Blackboard in any of your classes at Saddleback, how would you rate it as a learning resource?
    a. Excellent
    b. Good
    c. Fair
    d. Poor

10. What are the most interesting developments in educational technology that you are aware of (either available now or coming in the future) that Saddleback College and its instructors should consider? (Samples of educational technology: 3D printers, lecture capture, use of tablets, online tutoring, etc.)

11. Please describe the BEST or most exciting use of educational technology that you have encountered—one that truly helped you learn.

12. How important do you feel the following technologies are for learning? (1=very important; 2=important; 3=somewhat important; 4=not important)
    a. Campus-wide wireless access (1)__ (2)__ (3)__ (4)__
    b. Faster Internet speeds/access (1)__ (2)__ (3)__ (4)__
    c. Access to course documents through the Learning Management System (Blackboard) (1)__ (2)__ (3)__ (4)__
    d. Student laptops (1)__ (2)__ (3)__ (4)__
    e. Computer instructional labs (1)__ (2)__ (3)__ (4)__
    f. Open computer labs (1)__ (2)__ (3)__ (4)__

13. Which of the following claims describes the extent to which you prefer the use of educational technology in your courses?
    a) I prefer no educational technology
    b) I prefer a small amount (1-3 times a semester) of technology
    c) I prefer a moderate amount (4-6 times a semester) of technology
    d) I prefer a large amount (7 plus times a semester) of technology

14. What technologies (either available now or coming in the future) will help you be more academically successful at Saddleback College?

15. In comparison with your classmates, how tech-savvy do you believe you are with mobile technologies (for example: tablets, smartphones, etc.)?
    a) I barely get by
    b) I am stimulated by technology but find it difficult to use
    c) I am competent
    d) I am a power-user

16. Do you own your own personal laptop?
    a. Yes
    b. No

17. What type of personal device do you use to access college resources? (For example: iPhone, Android device, iPad, etc.) List as many as you use.

18. How many wireless devices do you bring with you to college?
    a) 0-1
    b) 2-3
    c) 3-4
    d) 5 plus

19. What is the main purpose for your use of Saddleback College computers?
    a. Computer lab school work
    b. Personal work (Social Media, Video Games, etc.)
    c. Half school work and half personal work
    d. I bring my own device and don't use Saddleback computers
    e. Other:_____

20. What is your perception of electronic textbooks?
    a. Really like them
    b. Like them
    c. Don't like them at all

21. When you experience technical problems, where do you go for help?

22. If Saddleback offered workshops explaining and demonstrating how to use learning technology resources available at Saddleback, would you attend?
    a. Absolutely
    b. Maybe
    c. No

23. Is there anything else you would like to tell us regarding students' use of learning technology?

Demographic Information

24. What is your academic goal at Saddleback College?
    a. Transfer
    b. Certificate
    c. Associates Degree
    d. Professional Development
    e. Personal Growth
    f. Other_____

25. What is your age?
    a. Under 20
    b. 21-30
    c. 31-40
    d. 41-50
    e. 51-60
    f. Over 60

26. What is your gender?
    a. Female
    b. Male

27. Are you a veteran?
    a. Yes
    b. No

EXHIBIT D

FACULTY SURVEY QUESTIONS

1. What are the most interesting developments in educational technology that you are aware of (either available now or coming in the future) that Saddleback College should consider? (Samples of educational technology: 3D printers, lecture capture, use of tablets, online tutoring, etc.)

2. Please describe the BEST or most exciting use of educational technology that you have encountered—one that truly helped in learning.

3. What type of technology or resource would help you in the integration of technology in your classes?

4. How much of a barrier are the following factors in the use of technology in your teaching? (Likert scale 1=no barrier; 2=somewhat of a barrier; 3=a major barrier)

    a. Time required to learn about technology (1) (2) (3)
    b. Time required to use technology in a class (1) (2) (3)
    c. Time to convert existing material to be used electronically (1) (2) (3)
    d. Copyright/intellectual property issues (1) (2) (3)
    e. Lack of necessary technical skills (1) (2) (3)
    f. Don't know how to get started (1) (2) (3)
    g. Student access to technology (1) (2) (3)
    h. Access to technology-enhanced facilities (1) (2) (3)
    i. Lack of current hardware and/or software (1) (2) (3)
    j. Inadequate classroom projection systems (1) (2) (3)
    k. Question its usefulness in teaching my courses (1) (2) (3)
    l. Lack of money to fund initial course development costs (1) (2) (3)

5. To what extent do you use a computer in your classroom for instruction?
    a. Always
    b. Often
    c. Seldom
    d. Never

6. How many wireless devices do you bring to work with you?
    e) 0-1
    f) 2
    g) 3-4

h) 5 plus

7. Do you use or plan to use VHS video tapes in your classroom?
    a. Yes
    b. No
8. If you had the ability to stream your educational videos to your students (Netflix style), would you use this service?
    a. Yes
    b. No
    c. I don't know what this means

9. Do you use overhead transparency projectors (not the video projector) in your classroom?
    a. Yes
    b. No
10. Are you interested in the capability to project content from your tablet or smartphone to the screen on the classroom?
    a. Yes
    b. No

11. Do you connect a laptop to a projection system in the classroom as part of instruction?
    a. Yes
    b. No

12. If, you answered yes to the previous question, which operating system do you use?
    a. Microsoft Windows
    b. Macintosh OS (Apple)
    c. Other:_____

13. Do you have a computer at home?
    a. Yes
    b. No

14. If you do have a computer at home, what type of operating system is it running?
    a. Microsoft Windows
    b. Macintosh OS (Apple)
    c. Other:_____

15. If we offered on-premise staff development classes on basic computer functionality (e.g. how to use a DVD, how to log in, etc.), would you attend?
    a. Yes

b. No

16. What components and/or activities do you use/have in your Learning Management System (Blackboard) classes now and /or plan to add in the future?
    a. Simulations
    b. Audio resources
    c. Video lectures (Lecture capture)
    d. Presentations/lectures
    e. Discussion forums
    f. Chat
    g. Instructor introduction
    h. Online syllabus
    i. Online grading
    j. Social Media

17. How important are the following technologies: (Likert scale: 1=very important; 2=somewhat important; 3=not important)
    a. Saddleback "cloud-service" similar to Dropbox so you can access your files anytime from anywhere but are safely stored and backed up (1) (2) (3)
    b. Providing audio/video or multimedia presentations in your classes (1) (2) (3)
    c. Providing students with resources/assistance to use technology to conduct research (1) (2) (3)
    d. Using computer-based presentation systems/tools (1) (2) (3)
    e. Developing instructional materials to enhance teaching and learning (1) (2) (3)
    f. Helping students solve new challenges and/or problems (1) (2) (3)
    g. Learning Management System (Blackboard) (1) (2) (3)
    h. Technology that will aid in increasing effectiveness as an instructor (1) (2) (3)
    i. Technology to communicate and interact with students (1) (2) (3)

18. How satisfied are you with the College's provision of AV in your classroom?
    a. Very Satisfied
    b. Satisfied
    c. Not Satisfied

19. What type of training do you prefer?
    a. One-on-one
    b. Group training
    c. On-demand training videos

20. How do you think technology can improve the student experience?

21. Please list technologies Saddleback should implement and list them in recommended priority of implementation.

Demographic Information

22. What is your age?
    a. 20-30
    b. 31-40
    c. 41-50
    d. 51-60
    e. Over 60

23. What is your gender?
    a. Female
    b. Male

24. What is your primary department?_____

EXHIBIT E

STAFF/ MANAGEMENT SURVEY QUESTIONS

1. What are the most interesting developments in educational technology that you are aware of (either available now or coming in the future) that Saddleback College should consider? (Samples of educational technology: 3D printers, lecture capture, use of tablets, online tutoring, etc.)

2. Please describe the BEST or most exciting use of educational technology that you have encountered—one that truly helped in learning.

3. What type of technology or resource would help you in the integration of technology in your daily job?

4. Please list technologies Saddleback should implement. Please suggest a priority of implementation.

5. What platform of computer system are you more comfortable with?

    a. Microsoft Windows
    b. Macintosh OS (Apple)
    c. Other: _____

6. What type of training do you prefer?
    a. One-on-one personal training
    b. Group training
    c. On-demand Training videos

7. How many wireless devices do you bring to work with you?
    a) 0-1
    b) 2
    c) 3-4
    d) 5 plus

8. How important are the following technologies to your job functions: (Likert scale: 1=very important; 2=somewhat important; 3=not important)
    a. Saddleback “cloud-service” similar to Dropbox so you can access your files anytime from anywhere but are safely stored and backed up (1) (2) (3)
    b. Providing audio/video or multimedia presentations in all rooms (1) (2) (3)

c. Providing students with resources/assistance to use technology to conduct research (1) (2) (3)
d. Using computer-based presentation systems/tools (1) (2) (3)
e. Developing instructional materials to enhance teaching and learning (1) (2) (3)
f. Helping students solve new challenges and/or problems (1) (2) (3)
g. Learning Management System (Blackboard) (1) (2) (3)
h. Technology to communicate and interact with students (1) (2) (3)

Demographic Information

9. What is your age?
    a. 20-30
    b. 31-40
    c. 41-50
    d. 51-60
    e. Over 60

10. What is your gender?
    a. Female
    b. Male

11. What is your job function?
    a. Classified Staff
    b. Management/Administrator

EXHIBIT F

SADDLEBACK COLLEGE

TECHNOLOGY COMMITTEE

COMPUTER CLASSROOM (INSTRUCTIONAL LAB) REPLACEMENT SCHEDULE

**Decommissioned computers from Groups C, D & E will not be deployed to other campus locations.

Group A - Every Odd Calendar Year	
Lab Name or Location	Qty
Graphics Lab (Mac) TAS 226	29
Graphics Lab (Mac) TAS 227	36
Comm Arts Video Lab (Mac) Vil 508	26
CAD Lab (Windows) TAS 218	33
Rapid Prototyping (Win) Vil 33-2	18
High Tech Lab (Win) Vil 29-1	19
High Tech Prod Lab (Mac) Vil 23-1	6
General Lab (Windows) Vil 32-1	33
MAP Lab SSC 166	17
BGS Fashion BGS 104,110,119	3
BGS Interior Design BGS 130-132	9
Total:	**229**

Trickle Down

Group B - Every Even Calendar Year	
Lab Name or Location	Qty
Digital Photography (Mac) LRC 102	33
Digital Photography (Mac) LRC 103	28
BGS 234 Lab (Windows)	31
IMC Lab (Windows) BGS 248	80
BGS 233 Lab (Windows)	31
Career Center (Windows) SSC	38
Total:	**241**

Trickle Down

Group C - From Group A	
Lab Name or Location	Qty
Comm Arts Audio (Mac) Vil 507	27
Journalism (Mac) LRC 116	20
MSE Lab (Windows) SM 348	53
Culinary Arts Lab Vil 3	5
Chemistry Lab (Windows) SM 207	29
Total:	**134**

Group D - From Group B	
Lab Name or Location	Qty
Graphics Lab (Mac) TAS 115	17
Reading Lab (Windows) LRC 215,216,221,230	104
Liberal Arts Lab (Windows) LRC 117**	27
LRC Tutoring (Win) * LRC & LRC 211	10
Total:	**158**

Group E - Every 4 years		
Lab Name or Location	Qty	Acquired Date
Comm Arts Editing Lab (Mac) Vil 517	9	2009
Faculty Center for Student Success (Mac) BGS 249	37	2012
Matriculation/Student Success Lab Vil 8	36	2008
Health Sci Laptops HS 102 & 112	12	2007
Health Sci Lab (Windows) (2018) HS 103	33	2010
Writing Lab (Win) LRC 209-210	55	2012
Language Lab (Windows) LRC 258	40	2012
Library Open Lab Thin Clients (Tutoring) (2nd-50 & 3rd-40) LRC 258	90	2012
Counseling Laptops (Windows) SSC	30	2006
Student Government	6	2006
SSC Lobby (4 PCs) (6 Thin Clients)	4	2010
Physics laptops (Windows) SM 101-102	32	2012
Library Workshop Laptops (Win) LRC 314	30	2012
Auto Tech (Win) (10 laptops) TAS 123-127	16	2007
KSBR	15	2007/2008
Total:	**445**	

Count of Proposed Replacement 2015: 161

Legend:

*Macs can be re-purchased by Apple and given credit towards next purchase

**This was replaced in 2015 since TAS remodel removed Vil 32-1 temporarily

EXHIBIT G

SADDLEBACK COLLEGE

TECHNOLOGY COMMITTEE

EMPLOYEE AND OPERATIONAL SYSTEMS REPLACEMENT SCHEDULE

Description	Replacement Cycle	Year of Next Replacement	Approximate Number
Computers			
Faculty & Classroom	4 years	2018	700
Managers & Staff	4 years	2019	400
Conference Rooms	4 years	2019	22
Department Miscellaneous	4 years	On-Going	121
Loaner Computers	4 years	2018	15
Systems/ Others			
Video Projectors	7 years	2015	200
Multimedia (AV) Equipment	7 years	2015	200
Printers	4 years	On-Going	300
Board Room	5 years	2015	Multiple
Television Station Equipment	7 years	2018	Multiple
Radio Station Equipment	5 years	2015	Multiple
Network Core and Edge Switches	7 years	2021	163
UPS	7 years	2016	100
Copiers	7 years	On-Going	40
Wireless Network	7 years	2016	1200
Servers	5 years	On-Going	15
Security Devices	7 years	2017	4
Storage Area Network	5 years	2020	2

EXHIBIT H

COLLEGE AUDIO/ VISUAL STANDARDS

Regular Classroom

Average Occupancy: 45

Description	Specifications
Furniture	
Instructor workstation chair	Standard rolling office chair to fit 30" desk relief.
Instructor workstation furniture desk	Incorporates AV equipment and chair insert. Table chair insert normal sitting height. Should accommodate all AV equipment and cabling as per AV standards.
Computer (supplied by college)	
Computer, monitor, keyboard and mouse	Current model. HDMI output or current digital output standard (video and audio).
Media players	
VHS-DVD Combo player	Until phased out. Composite video and stereo audio output
Document camera	Current model. HDMI video output. Backlit and toplit. HDMI out. (e.g. Lumens DC 192 type)
Projection	
Video projector	Minimum 5000 lumens. Minimum resolution WUXGA (1920x1200). Minimum 2 HDMI inputs. HDbaseT compliant (or adapted format). "Creston Connected" compliant. Hitachi or Panasonic brand.
Secure ceiling mount	Keyed alike. Crestron or BMS.
Drop-ceiling plate with pipe for video projector mount	Includes 2-gang AC power pop-out plug and RJ45 plate plug to accommodate 2-gang RJ45 plate.

Electrical projection screen with wall switch and main switcher component	Compliant with AV switcher-scaler (Crestron or Extron). 16:10 screen ratio. Minimum width 96". High reflectivity.
Switcher	
Digital audio visual switcher-scaler system	Must utilize current digital AV standards for inputs/outputs. HDbaseT compliant (or current digital output standard). Analog audio input and output. Minimum inputs: 3 HDMI, 1 VGA. Crestron compliant.
Simple push button select control with volume knob and screen control	Compliant with AV switcher.
Audio Amplification	
Audio system	Compliant with AV switcher. Minimum 4 drop-ceiling flush speakers spaced for coverage (Extron or Crestron type). Minimum 25 watts RMS total per speaker. Increase number of speakers for occupancy greater than 45.
Wireless microphone system	Compatible with switcher-scaler. (e.g. Crestron FreeSpeech® Dual-Channel Wireless Mic System Package)
Peripherals	
Classroom IP phone	Compliant with current college standards. Cisco type. Must have locking mechanism.
Wireless Media Receiver	This peripheral must allow audio and video content wirelessly transmitted from mobile devices to projector. Connected mobile device must be able to connect to the Internet while connected to this Wireless Media Receiver (e.g. AppleTV).
Cabling	
Auxiliary video inputs	Compliant with AV switcher. VGA and HDMI (or current digital standard). Must include audio component.

LAN network cables (Cat-6)	Compliant with AV switcher. 1 for AV switcher-scaler, 2 for video projector, 1 for IP phone, 1 for auxiliary input (i.e. laptop, tablet), 1 for instructor workstation computer. RJ45-style. Contractor to provide patch panel and patch cords at both ends.
Connection from switcher-scaler to video projector	Compliant with AV switcher-scaler and video projector. RJ45-style. HDbaseT (CAT-6) cable from switcher-scaler to video projector.
All related cabling, connectors, adapters, and parts required for equipment installation	Compliant with AV switcher-scaler, computer, video projector and devices.
Cable cubby	Compliant with AV switcher-scaler, laptop, Wireless Media Receiver. Required inputs: VGA with analog audio, CAT-6 network jack, HDMI, VGA with audio minijack (1/8"), AC 2-gang, USB. Located in instructor workstation. Crestron or Extron type.
RJ45 plate at video projector	Must accommodate 4 RJ45 jacks (2 LAN, 1 HDbaseT).
120V AC wiring to video projector	2-gang outlet at drop-ceiling video projector mount plate.
120V AC wiring to instructor workstation	4-gang AC outlet at equipment rack
120V AC wiring to cable cubby	2 AC outlets
Software	
Fusion RV Software	For monitoring video projectors and peripherals

Lecture Hall (Classroom)

Description	Specifications

Furniture	
Instructor workstation chair	Standard rolling office chair to fit 30" desk relief.
Instructor workstation furniture desk	Incorporates AV equipment and chair insert. Sitting height at 29-33". Must accommodate all AV equipment and cabling. Minimum 14 RU equipment rack.
Computer (supplied by college)	
Computer, monitor, keyboard and mouse	Current model. HDMI output or current digital output standard (video and audio)
Media Devices	
Blu-ray player	Multi-region capable. Closed captioning enabled.
VHS-DVD Combo player	Until phased out. Composite video and stereo audio output.
Document camera	Current model. HDMI video output. Backlit and toplit. HDMI out. (e.g. Lumens DC 192 type)
Projection	
Video projector	Minimum 6000 lumens. Minimum resolution WUXGA (1920x1200). Minimum 2 HDMI inputs. HDbaseT compliant (or adapted format). "Creston Connected" compliant. Hitachi or Panasonic brand.
Lens for video projector	Medium throw lens for 18' placement.
Security video projector mount	Keyed alike. Must fit chosen video projector. Crestron or BMS.
Video projector ceiling pipe mount	Include 2-gang AC power outlet and RJ45 mounting box to accommodate RJ45 plate.
Electrical projection screen with wall switch and main switcher component	Compliant with AV switcher-scaler. 16:10 screen ratio. (e.g. Da-Lite Advantage Electrol 70126LS) Dimensions: 72.5" x 116". Black case. High reflectivity.
Switcher	
Digital switcher-scaler system	Current digital format. HDbaseT compliant (or current digital output standard). Analog audio, minimum inputs: 4 HDMI, 1 VGA. Better or equivalent to Crestron DMPS-200-C.

Touchscreen control panel	Compliant with AV switcher-scaler. Minimum size 7". Equivalent to Crestron TSW-750.
Touchscreen table top mounting kit	Compliant with matching touchscreen. Equivalent to Crestron TSW-750-TTK.
Audio Amplification	
Audio amplifier	Compliant with AV switcher-scaler. Minimum 200 watt RMS per channel to accommodate 6 speakers (e.g. QSC CX302)
Speakers with mounts	Two front speakers (e.g. JBL Control T28). Four side speakers (e.g. JBL Control 25T). High performance bracket mount (JBL Control 28T and 25T type).
Desk-mounted microphone	Connected to feedback suppressor and mixer. Shure MX 412D\S 12" microphone.
Feedback suppressor	Connected to Crestron switcher-scaler (audio mixer). Equivalent to Sabine FBX or Shure DFR22.
Wireless microphones	2 wireless microphone systems. Better or equivalent to Shure ULX or GLX-D wireless microphone systems with SM-58 handheld and lavalier mics with bodypack each.
Peripherals	
Classroom IP phone	Compliant with current college standards. Cisco type. Must have locking mechanism.
AC power conditioner with switch	For initial power distribution to AV equipment. Furman type.
Desk articulating arm for computer monitor	Must fit supplied monitor and workstation desk
Wireless Media Receiver	This peripheral must allow audio and video content wirelessly transmitted from mobile devices to projector. Connected mobile device must be able to connect to the Internet while connected to this Wireless Media Receiver (e.g. AppleTV).
Cabling and Connectors	

Auxiliary video inputs	Compliant with AV switcher. VGA and HDMI (or current digital standard). Must include audio component.
LAN network cables (Cat-6)	Compliant with AV switcher. 1 for AV switcher-scaler, 2 for video projector, 1 for IP phone, 1 for auxiliary input (i.e. laptop, tablet), 1 for instructor workstation computer. RJ45-style. Contractor to provide patch panel and patch cords at both ends.
Connection from switcher-scaler to video projector	Compliant with AV switcher-scaler and video projector. RJ45-style. HDbaseT (CAT-6) cable from switcher-scaler to video projector.
All related cabling, connectors, adapters, and parts required for equipment installation	Compliant with AV switcher-scaler, computer, video projector and devices.
Cable cubby	Compliant with AV switcher-scaler, laptop, Wireless Media Receiver. Required inputs: VGA with analog audio, CAT6 network jack, HDMI, VGA with audio minijack (1/8"), AC 2-gang, USB. Located in instructor workstation. Crestron or Extron type.
RJ45 plate at video projector	Must accommodate 4 RJ45 jacks (2 LAN, 1 HDbaseT).
120V AC wiring to video projector	2-gang outlet at drop-ceiling video projector mount plate. NEMA plug (20 amp).
120V AC wiring to instructor workstation	4-gang AC outlet at equipment rack
120V AC wiring to cable cubby	2 AC outlets
Hinged plexi security cover for equipment rack	To prevent access to Crestron switcher-scaler, amplifiers, mixers, wireless microphone receivers, etc (e.g. Middle Atlantic MID-SECL). Leave access to computer, combo DVD-VHS player, Blu-ray player.
Rack mount module	Rack mount module for all rack-mounted hardware, including shelves, plates, screws, spacers, drawer, etc.
Rack mount drawer	2 RU drawer when rack space is available or under chair space in desk
Software	

Fusion RV Software	For monitoring video projectors and peripherals

Theater Classroom

Description	Specifications
Furniture	
Instructor workstation chair	Rolling podium chair to match height of podium and/or workstation
Instructor workstation furniture desk	Incorporates AV equipment and chair insert. Must accommodate all AV equipment and cabling. Minimum 2x 12 RU equipment rack space. (e.g. L5-TURFR-43 with finishing kit L5-TKIT-43)
Computer (supplied by college)	
Computer, monitor, keyboard and mouse	Current model. HDMI output or current digital output standard (video and audio)
Media Devices	
Blu-ray player	Multi-region capable. Closed captioning enabled.
VHS-DVD Combo player	Until phased out. Composite video and stereo audio output.
Document camera	Backlit and toplit. HDMI out.
Projection	
Video projector	Minimum 10000 lumens. Minimum resolution WUXGA (1920x1200). Minimum 2 HDMI inputs. HDbaseT compliant (or adapted format). "Creston Connected" compliant. Hitachi or Panasonic brand.
Lens for video projector	Dependent on video projector placement.
Security video projector mount	Specialized mount to fit video projector and mounting location.
Video projector ceiling pipe mount	Optional, depending on room architecture. Include 2-gang AC power outlet and RJ45 mounting box to accommodate RJ45 plate.

Electrical projection screen with wall switch and main switcher-scaler component	Compliant with AV switcher-scaler. 16:10 screen ratio. Equivalent to Da-Lite Tensioned Contour Electrol 24749L with HD Progressive 1.3 Material (dimensions: 87" x 139" viewable area). Black case.
Switcher	
Digital switcher-scaler system	Current digital format. HDbaseT compliant (or current digital output standard). Analog audio, minimum inputs: 4 HDMI, 1 VGA. Better or equivalent to Crestron DMPS-200-C.
Touchscreen control panel	Compliant with AV switcher-scaler. Minimum size 7". Equivalent to Crestron TSW-750.
Touchscreen table top mounting kit	Compliant with matching touchscreen. Equivalent to Crestron TSW-750-TTK.
Audio	
Audio processor	5.1 digital surround sound processor. Compliant with AV switcher-scaler. HDMI inputs or current digital standard.
Audio amplifiers	Compliant with audio processor. Minimum 3 stereo amplifiers to drive 6 speaker channels. Minimum 200 watts RMS per channel (e.g. QSC CX302)
Speakers with mounts	Three front speakers (e.g. JBL Control T30). Two rear speakers (e.g. JBL Control 28T). Two subwoofers (e.g. JBL Model 4642A). High performance bracket mounts (JBL Control 28T and 30T type).
Desk-mounted microphone	Connected to feedback suppressor and mixer. Shure MX 412D\S 12" microphone.
Feedback suppressor	Connected to Crestron switcher-scaler (audio mixer). Equivalent to Sabine FBX or Shure DFR22.
Wireless microphones	2 wireless microphone systems. Better or equivalent to Shure ULX or GLX-D wireless microphone systems with SM-58 handheld and lavalier mics with bodypack each.
Peripherals	

Classroom IP phone	Compliant with current college standards. Cisco type. Must have locking mechanism.
AC power conditioner with switch	For initial power distribution to AV equipment. Furman type. One for each rack.
Desk articulating arm for computer monitor	Must fit supplied monitor and workstation desk
Wireless Media Receiver	This peripheral must allow audio and video content wirelessly transmitted from mobile devices to projector. Connected mobile device must be able to connect to the Internet while connected to this Wireless Media Receiver (e.g. AppleTV).
Cabling and Connectors	
Auxiliary video inputs	Compliant with AV switcher. VGA and HDMI (or current digital standard). Must include audio component.
Wall audio connections	Wall plate with 4 XLR microphone inputs. Run audio cables to switcher-scaler.
Connection from switcher-scaler to video projector	Compliant with AV switcher-scaler and video projector. RJ45 style jack HDbaseT (CAT-6) cable from switcher-scaler to video projector.
All related cabling, connectors, adapters, and parts required for equipment installation	Compliant with AV switcher-scaler, computer, video projector and devices.
Cable cubby	Compliant with AV switcher-scaler, laptop, Wireless Media Receiver. Required inputs: VGA with analog audio, CAT6 network jack, HDMI, VGA with audio minijack (1/8"), AC 2-gang, USB. Located in instructor workstation. Crestron type.
RJ45 plate at video projector	Must accommodate 4 RJ45 jacks (2 LAN, 1 HDbaseT).
120V AC wiring to video projector	2-gang outlet at drop-ceiling video projector mount plate. NEMA plug (20 amp).

120V AC wiring to instructor workstation	4-gang AC outlet at equipment rack
120V AC wiring to cable cubby	2 AC outlets
Hinged plexi security cover for equipment rack	To prevent access to Crestron switcher-scaler, amplifiers, mixers, wireless microphone receivers, etc (e.g. Middle Atlantic MID-SECL). Leave access to computer, combo DVD-VHS player, Blu-ray player.
Rack mount module	Rack mount module for all rack-mounted hardware, including shelves, plates, screws, spacers, drawer, etc.
Rack mount drawer	2 RU drawer when rack space is available or under chair space in desk
Software	
Fusion RV Software	For monitoring video projectors and peripherals

Small Conference Room

Average occupancy: 10

Description	Specifications
Furniture	
Desk chairs	Provided by college.
Conference table	Conference table with center space to incorporate AV equipment and cabling.
Computer (supplied by college)	
Computer, monitor, keyboard and mouse	Small profile computer (e.g. MacMini). HDMI output or current digital output standard (video and audio)
Media Devices	

Wireless Media Receiver	This peripheral must allow audio and video content wirelessly transmitted from mobile devices to projector. Connected mobile device must be able to connect to the Internet while connected to this Wireless Media Receiver (e.g. AppleTV).
Projection	
Video projector or Display Monitor	Video Projector: Ultra short throw video projector with mount included. Minimum 3000 lumens. Minimum resolution WUXGA (1920x1200). Minimum 2 HDMI inputs. HDbaseT compliant (or adapted format). "Creston Connected" compliant. Hitachi or Panasonic brand. Display Monitor: minimum 75", minimum resolution 4k.
Projection surface (if using video projector)	Steel-backed projection whiteboard. Size to be determined by room architecture.
Switcher	
Switcher-scaler system	Switching system with wall plate controls (e.g. Pixie type) or Hitachi MS-1WL wireless switcher with wired remote.
Audio Amplification	
Speakers with mounts	Two drop-ceiling flush speakers. Equivalent to Extron SpeedMount Ceiling Speaker System CS 1226T.
Audio amplifiers	Minimum 15 watts RMS per channel (e.g. Crestron MP-AMP30)
Peripherals	
Classroom IP phone	Compliant with current college standards. Cisco type. Must have locking mechanism.
Cabling and Connectors	
Auxiliary video inputs	Compliant with AV switcher. VGA and HDMI (or current digital standard). Must include audio component.
Videoconferencing system	Minimum HD resolution video camera. Condenser microphone(s) for room.

LAN network cables (Cat-6)	Compliant with AV switcher. 2 for video projector, 1 for IP phone, 1 for auxiliary input (i.e. laptop, tablet), 1 for instructor workstation computer. RJ45-style jack. Contractor to provide patch panel and patch cords at both ends.
Connection from switcher-scaler to video projector	Compliant with AV switcher-scaler and video projector. RJ45-style jack. HDbaseT (CAT-6) cable from switcher-scaler to video projector.
All related cabling, connectors, adapters, and parts required for equipment installation	Compliant with AV switcher-scaler, computer, video projector and devices.
Desk AV interface	Compliant with AV switcher-scaler, laptop, Wireless Media Receiver. Required inputs: VGA with analog audio, CAT6 network jack, HDMI, VGA with audio minijack (1/8"), AC 2-gang, USB. Located in or on conference desk, dependent on switcher type.
RJ45 plate at video projector	Must accommodate 4 RJ45 jacks (2 LAN, 1 HDbaseT).
120V AC wiring to video projector	2-gang outlet at drop-ceiling video projector mount plate.
120V AC wiring to conference desk	4-gang AC outlet at desk
120V AC wiring to desk AV interface	2 AC outlets
Software	
Fusion RV Software	For monitoring video projectors and peripherals

Large Conference Room

Description	Specifications
Furniture	
Desk chairs	Provided by college.

Conference table	Conference table with center space to incorporate AV equipment and cabling.
Computer (supplied by college)	
Computer, monitor, keyboard and mouse	Small profile computer (e.g. MacMini). HDMI output or current digital output standard (video and audio)
Media Devices	
Blu-ray player	Multi-region capable. Closed captioning enabled.
VHS-DVD Combo player	Until phased out. Composite video and stereo audio output.
Document camera	Current model. HDMI video output. Backlit and toplit. HDMI out. (e.g. Lumens DC 192 type)
Wireless Media Receiver	This peripheral must allow audio and video content wirelessly transmitted from mobile devices to projector. Connected mobile device must be able to connect to the Internet while connected to this Wireless Media Receiver (e.g. AppleTV).
Projection	
Video projector	Minimum 6000 lumens. Minimum resolution WUXGA (1920x1200). Minimum 2 HDMI inputs. HDbaseT compliant (or adapted format). "Creston Connected" compliant. Hitachi or Panasonic brand.
Lens for video projector	Appropriate lens for chosen projector and screen size.
Security video projector mount	Keyed alike. Must fit chosen video projector. Crestron or BMS.
Video projector ceiling pipe mount	Include 2-gang AC power outlet and RJ45 mounting box to accommodate RJ45 plate.
Electrical projection screen with wall switch and main switcher component	Compliant with AV switcher-scaler. 16:10 screen ratio. (e.g. Da-Lite Advantage Electrol 70126LS) Size dependent on room architecture. Black case. High reflectivity.
Switcher	

Digital switcher-scaler system	Current digital format. HDbaseT compliant (or current digital output standard). Analog audio, minimum inputs: 4 HDMI, 1 VGA. Better or equivalent to Crestron DMPS-200-C.
Touchscreen control panel	Compliant with AV switcher-scaler. Minimum size 7". Equivalent to Crestron TSW-750.
Touchscreen table top mounting kit	Compliant with matching touchscreen. Equivalent to Crestron TSW-750-TTK.
Audio Amplification	
Speakers with mounts	Minimum four speakers with ceiling tile enclosure system. Equivalent to Extron SpeedMount Ceiling Speaker System CS 1226T.
Audio amplifiers	Minimum 50 watts RMS per channel.
Wireless microphone system	Compatible with Crestron switcher-scaler. (e.g. Crestron FreeSpeech® Dual-Channel Wireless Mic System Package)
Feedback suppressor	Connected to Crestron switcher-scaler (audio mixer). Equivalent to Sabine FBX or Shure DFR22.
Peripherals	
Videoconferencing system	Minimum HD resolution video camera. Condenser microphone(s) for room.
Classroom IP phone	Compliant with current college standards. Cisco type. Must have locking mechanism.
AC power conditioner with switch	For initial power distribution to AV equipment. Furman type.
Wireless Media Receiver	This peripheral must allow audio and video content wirelessly transmitted from mobile devices to projector. Connected mobile device must be able to connect to the Internet while connected to this Wireless Media Receiver (e.g. AppleTV).
Cabling and Connectors	
Auxiliary video inputs	Compliant with AV switcher. VGA and HDMI (or current digital standard). Must include audio component.

LAN network cables (Cat-6)	Compliant with AV switcher. 1 for AV switcher-scaler, 2 for video projector, 1 for IP phone, 1 for auxiliary input (i.e. laptop, tablet), 1 for instructor workstation computer. RJ45-style. Contractor to provide patch panel and patch cords at both ends.
Connection from switcher-scaler to video projector	Compliant with AV switcher-scaler and video projector. RJ45-style. HDbaseT (CAT-6) cable from switcher-scaler to video projector.
All related cabling, connectors, adapters, and parts required for equipment installation	Compliant with AV switcher-scaler, computer, video projector and devices.
Cable cubby	Compliant with AV switcher-scaler, laptop, Wireless Media Receiver. Required inputs: VGA with analog audio, CAT6 network jack, HDMI, VGA with audio minijack (1/8"), AC 2-gang, USB. Located in instructor workstation. Crestron type.
RJ45 plate at video projector	Must accommodate 4 RJ45 jacks (2 LAN, 1 HDbaseT).
120V AC wiring to video projector	2-gang outlet at drop-ceiling video projector mount plate.
120V AC wiring to instructor workstation	4-gang AC outlet at equipment rack
120V AC wiring to cable cubby	2 AC outlets
Hinged plexi security cover for equipment rack	To prevent access to Crestron switcher-scaler, amplifiers, mixers, wireless microphone receivers, etc (e.g. Middle Atlantic MID-SECL). Leave access to computer, combo DVD-VHS player, Blu-ray player.
Rack mount module	Rack mount module for all rack-mounted hardware, including shelves, plates, screws, spacers, drawer, etc.
Software	
Fusion RV Software	For monitoring video projectors and peripherals

Multipurpose Room

Description	Specifications
Furniture	
Presenter workstation chair	Rolling podium chair to match height of podium and/or workstation
Presenter workstation furniture desk	Incorporates AV equipment and chair insert. Must accommodate all AV equipment and cabling. Minimum 2x 12 RU equipment rack space. (e.g. L5-TURFR-43 with finishing kit L5-TKIT-43)
Computer (supplied by college)	
Computer, monitor, keyboard and mouse	Current model. HDMI output or current digital output standard (video and audio)
Media Devices	
Blu-ray player	Multi-region capable. Closed captioning enabled.
VHS-DVD Combo player	Until phased out. Composite video and stereo audio output.
Document camera	Backlit and toplit. HDMI out.
Projection	
Video projector	Minimum 10000 lumens. Minimum resolution WUXGA (1920x1200). Minimum 2 HDMI inputs. HDbaseT compliant (or adapted format). "Creston Connected" compliant. Hitachi or Panasonic brand.
Lens for video projector	Dependent on video projector placement.
Security video projector mount	Specialized mount to fit video projector and mounting location.
Video projector ceiling pipe mount	Optional, depending on room architecture. Include 2-gang AC power outlet and RJ45 mounting box to accommodate RJ45 plate.
Electrical projection screen with wall switch and main switcher-scaler component	Compliant with AV switcher-scaler. 16:10 screen ratio. Equivalent to Da-Lite Tensioned Contour Electrol 24749L with HD Progressive 1.3 Material (dimensions: 87" x 139" viewable area). Black case.
Switcher	

Digital switcher-scaler system	Current digital format. HDbaseT compliant (or current digital output standard). Minimum inputs: 5 HDMI, 1 VGA, 6 mic inputs. Better or equivalent to Crestron DMPS-300-C.
7" touch control panel	Compliant with AV switcher-scaler. Equivalent to Crestron TSW-750.
7" table top mounting kit	Compliant with matching touch screen. Equivalent to Crestron TSW-750-TTK.
Audio	
Audio amplifiers	Compliant with audio processor. Minimum 2 stereo amplifiers to drive 6 speakers. Minimum 200 watts RMS per channel (e.g. QSC CX302)
Speakers with mounts	Two front speakers (e.g. JBL Control T30). Two middle and two rear speakers (e.g. JBL Control 28T). One subwoofer. High performance bracket mounts (JBL Control 28T and 30T type).
Desk-mounted microphone	Connected to feedback suppressor and mixer. Shure MX 412D\S 12" microphone.
Feedback suppressor	Connected to Crestron switcher-scaler (audio mixer). Equivalent to Sabine FBX or Shure DFR22.
Wireless microphones	2 wireless microphone systems. Better or equivalent to Shure ULX or GLX-D wireless microphone systems with SM-58 handheld and lavalier mics with bodypack each.
Peripherals	
Videoconferencing system	Minimum HD resolution video camera. Condenser microphone(s) for room.
Classroom IP phone	Compliant with current college standards. Cisco type. Must have locking mechanism.
AC power conditioner with switch	For initial power distribution to AV equipment. Furman type. One for each rack.
Desk articulating arm for computer monitor	Must fit supplied monitor and workstation desk

Wireless Media Receiver	This peripheral must allow audio and video content wirelessly transmitted from mobile devices to projector. Connected mobile device must be able to connect to the Internet while connected to this Wireless Media Receiver (e.g. AppleTV).
Cabling and Connectors	
Auxiliary video inputs	Compliant with AV switcher. VGA and HDMI (or current digital standard). Must include audio component.
Wall audio connections	Wall plate with 4 XLR microphone inputs. Run audio cables to switcher-scaler.
Connection from switcher-scaler to video projector	Compliant with AV switcher-scaler and video projector. RJ45 style jack HDbaseT (CAT-6) cable from switcher-scaler to video projector.
All related cabling, connectors, adapters, and parts required for equipment installation	Compliant with AV switcher-scaler, computer, video projector and devices.
Cable cubby	Compliant with AV switcher-scaler, laptop, Wireless Media Receiver. Required inputs: VGA with analog audio, CAT6 network jack, HDMI, VGA with audio minijack (1/8"), dedicated audio minijack (1/8"). AC 2-gang, USB female port. Located in presenter workstation. Crestron type.
RJ45 plate at video projector	Must accommodate 4 RJ45 jacks (2 LAN, 1 HDbaseT).
120V AC wiring to video projector	2-gang outlet at drop-ceiling video projector mount plate. NEMA plug (20 amp).
120V AC wiring to instructor workstation	4-gang AC outlet at equipment rack
120V AC wiring to cable cubby	2 AC outlets
Hinged plexi security cover for equipment rack	To prevent access to Crestron switcher-scaler, amplifiers, mixers, wireless microphone receivers, etc (e.g. Middle Atlantic MID-SECL). Leave access to computer, combo DVD-VHS player, Blu-ray player.

Rack mount module	Rack mount module for all rack-mounted hardware, including shelves, plates, screws, spacers, drawer, etc.
Rack mount drawer	2 RU drawer when rack space is available or under chair space in desk
Software	
Fusion RV Software	For monitoring video projectors and peripherals

EXHIBIT I

PROJECTED TECHNOLOGY EXPENDITURES

*based on best estimates

DESCRIPTION		2015-2016	2016-2017	2017-2018	2018-2019	2019-2020
Hardware						
Instructional						
Desktop/Laptops		$838,500	$838,500	$838,500	$838,500	$838,500
A/V (Projectors, Systems, Etc.)		$25,000	$1,000,000	$2,100,000	$25,000	$25,000
Document Cameras		$1,500	$1,500	$1,500	$1,500	$1,500
Television & Radio Systems		$15,000	$350,000	$15,000	$15,000	$15,000
Infrastructure						
Security Devices		$12,000	$300,000	$12,000	$12,000	$12,000
Servers		$180,000	$80,000	$40,000	$40,000	$190,000
Storage		$380,000	$50,000	$60,000	$70,000	$380,000
Network		$50,000	$50,000	$50,000	$50,000	$50,000
Wireless		$455,000	$2,100,000	$14,000	$14,000	$14,000
UPS		$78,000	$200,000	$8,000	$8,000	$8,000
Printers		$12,000	$12,000	$12,000	$12,000	$12,000
Copiers		$320,000	$320,000	$320,000	$320,000	$320,000
Cabling		$38,000	$1,385,000	$38,000	$38,000	$38,000
DNS		$0	$177,000	$0	$0	$0
Streaming System		$15,000	$212,000	$0	$0	$0
Student Print		$158,000	$30,000	$30,000	$30,000	$30,000
Data Center		$2,900,000	$30,000	$30,000	$30,000	$30,000
Fiber		$70,000	$25,000	$250,000	$0	$0
Other		$120,000	$120,000	$130,000	$150,000	$170,000
Total Hardware		$2,578,000	$7,106,000	$3,539,000	$1,474,000	$1,934,000

Software						
Instructional						
Classrooms & Computer Labs		$280,000	$310,000	$340,000	$340,000	$340,000
Blackboard		$455,278	$455,278	$455,278	$455,278	$455,278
Turnit In		$13,414	$16,000	$18,000	$19,000	$20,000
Other		$45,000	$46,000	$47,000	$48,000	$49,000
Non-Instructional						
Divisions/ Departments/ Others		$270,000	$370,000	$310,000	$310,000	$310,000
Total Software		$1,063,692	$1,197,278	$1,170,278	$1,172,278	$1,174,278
Service Maintenance Agreements						
Instructional		$240,000	$255,000	$260,000	$265,000	$270,000
Non-instructional		$110,000	$120,000	$130,000	$140,000	$150,000
Total SMAs		$350,000	$375,000	$390,000	$405,000	$420,000
Future Initiatives						
Future Requests		$100,000	$100,000	$100,000	$100,000	$100,000
Total		$3,991,692	$8,678,278	$5,099,278	$3,051,278	$3,528,278