Standard III.C. Technology Resources

III.C.1.

Technology services, professional support, facilities, hardware, and software are appropriate and adequate to support the institution's management and operational functions, academic programs, teaching and learning, and support services.

Evidence of Meeting the Standard

Information Technology (IT) is Knowledgeable of Needs

The Information Technology (IT) Department at Mt. San Antonio College (Mt. SAC) participates in multiple campus committees to keep abreast of evolving College needs and critical requirements. In addition, IT utilizes a distributed workforce model where many IT staff work within the areas they support, which facilitates effective and ongoing communication between IT and the College community. IT also provides consulting services to College constituents seeking to add or enhance technology in their areas or programs. The outcomes of these consultations frequently become part of the Planning for Institutional Effectiveness (PIE) documents for both the area and IT. Some needs are a result of changes in state or local policy. The College President co-chairs the Chancellor's Telecommunication and Technology Advisory Committee (TTAC) and provides regular updates on emerging state projects and the status of ongoing state projects. This connection puts the

College at the forefront when it comes to meeting those needs. Quarterly reports from IT to Cabinet provide bi-directional feedback on both state and local projects. To ensure that instructional environments have adequate infrastructure for the technology requested/required, IT also assists with developing College standards for classrooms and facilities construction projects. Finally, IT maintains a Help Desk and instructional support personnel during instructional hours, which provides a single location to call for technology assistance.

IT Ensures Appropriate and Adequate Support

Mt. SAC ensures that its various types of technology needs are identified and are appropriate and adequate based on multiple sources of input. The strategic deployment of academic support staff in the areas they serve, rather than centrally locating them in the IT building, ensures there are direct, ongoing communications between IT staff and its user base.

Representatives from IT participate in the many planning and informational committees at the College including: Instruction Team, Student Services Team, Facilities Planning, Information Technology Advisory Committee (ITAC), President's Cabinet, President's Advisory Committee (PAC), and Distance Learning Committee (DLC) (III.C.1-1, III.C.1-2, I.B.5-6). The IT Department participates in the Planning for Institutional Effectiveness (PIE) process to ensure that campus IT

needs are recognized in the campus budgeting and planning processes. Within the scope of a College-allocated, computer replacement budget, the IT Department plans for and implements an equipment replacement program to ensure that faculty and administrative support personnel have adequate technology available to them and the College has an adequate infrastructure to support the academic and administrative computing needs of the College. This is separate from the planning and implementation of classroom academic technology, which is a shared management between Information Technology and Technical Services. IT staff regularly attend Facilities planning meetings and completes plan reviews to insure sufficient and appropriate technology infrastructure is designed into College buildings. Additionally, IT and Tech Services have created, assembled and maintain a set of documents delineating the technology standards for classrooms and offices (III.C.1-3, III.C.1-4, III.C.1-5, III.C.1-6, III.C.1-7, III.C.1-8). IT works closely with Technical Services, Facilities Planning, and Management to ensure synergy and appropriateness of building and systems design to supply critical technology tools for students, faculty, and staff. This enhances student learning while ensuring student equity and success.

IT leadership meets regularly with Associated Student leaders, inviting them on prearranged tours of IT facilities and soliciting their input on IT matters.

IT Evaluates the Effectiveness of Technology

Mt. SAC evaluates the effectiveness of its technology in meeting its range of needs. The Technology Master Plan is regularly reevaluated by the Chief Technology Officer (CTO) and ITAC and revised as appropriate to maintain conformity and integration with the College goals, Educational Master Plan, and Strategic Plan (III.C.1-9). The IT Department utilizes appropriate software, Microsoft System Center Service Manager (SCSM), to track support requests submitted through the Help Desk and creates an ever-expanding knowledge base related to critical College technologies. The system tracks the timeline and progress of every support request so staff and managers have access to reporting tools to review data from the system. Results indicate continual improvement in support and usage of technology throughout the College. These results are critical in helping IT improve service levels and responsiveness as is critical to the College in a rapidly changing technology environment. The IT Department also proactively seeks user input through administration of surveys and various feedback mechanisms (III.C.1-10 pg. 11).

The IT Department implements multiple monitoring mechanisms to ensure maximum system and network uptime. Ongoing evaluation of information and data security frequently results in changing IT practices. One such assessment revealed that on-campus use of the application, BitTorrent, was so prevalent that it showed up in the College's network monitoring logs up to 1,200 times per minute. This severely affects network performance. Since there

is no academic use for BitTorrent (used primarily for streaming/downloading movies and audio files) IT now blocks usage.

IT Uses Appropriate Decision-Making Based on Need

Mt. SAC makes decisions about technology services, facilities, hardware, and software through a variety of responses from team and department meetings, Help Desk reports, survey results, and technology standard documents. The CTO collaboratively prepares a Technology Master Plan in conjunction with ITAC detailing how the IT Department will follow the College Strategic Plan and support the institutional goals of the College. The CTO is advised by ITAC, which has a prescribed makeup of members from various constituencies throughout the College for true institutional shared governance. The IT Department coordinates with the Facilities Department and Technical Services to make sure all new construction meets current and future technology standards, and facilities standards for new construction are adequate to support the technology. IT is represented on the College Instruction Team to ensure that relevant instructional goals correlate with the best use of available technology and that College instructional decisions receive full IT support very early in the decision-making process. The IT Department is represented on the Student Services Team and is actively involved on the Distance Learning Committee to ensure that distance learning receives adequate technology support, that decisions regarding distance learning are made under proper advisement, and that any IT

decisions affecting distance learning are considered and discussed in a collaborative fashion.

IT visits instructional departments to ask about technology needs. Many times, these needs are resolved quickly and in a cost-efficient manner. Visits can also result in the utilization of the College computer replacement program, which IT administers on behalf of the College. The IT Department reviews Help Desk data and numerous survey results to ensure a clear picture of the technology needs of College constituencies. Surveys and related one-to-one feedback clarified that the College community believed various network services needed improving. As a result, IT assessed the survey results, sought funding for improvements, and implemented several network upgrades and enhancements (**III.C.1-10 pg. 11**, **III.C.1-11**). Within the academic support section of the IT Department, IT employees work directly with educators and administrators to identify needs and implement appropriate solutions on an ongoing basis.

IT also receives and responds to requests from all areas of the College. Some examples of this are:

The Alertus project is a collaborative effort aimed at providing mass alerts to the College community. The goal of the project is to enable the campus to better respond to emergencies with managed crisis communications. A proof of concept deployment was successfully installed in building 13 utilizing in-building alert beacons and speakers. The solution also includes a PC client that was tested and deployed to College computers. Plans to

expand the pilot, campus wide, are underway (III.C.1-12, III.C.1-13, III.C.1-14).

Student request for expanded Wi-Fi coverage - IT leadership met with student leadership when it became clear that the students were dissatisfied with wireless coverage at the College. As a result, IT supported the effort and began expanding Wi-Fi to include external outdoor common areas in addition to expansion of existing internal wireless offerings at the College (III.C.1-15 pg. 2).

OnBase - Beginning in 2011, IT worked closely with a committee from departments across the College to draft requirements, procure, and implement a new document imaging system (III.C.1-16, III.C.1-17 pg. 2). The first phase of this project went live in June 2015 and featured improved scanning and retrieval of transcripts and other student records as well as integration with the College's student information system (Banner) for financial aid document tracking (III.C.1-18 III.C.1-19 pg. 2, III.C.1-20 pg. 3, III.C.1-21). The second phase of the project went into production in March 2016 and features electronic capture of transcript details, ability to process electronic transcripts from eTranscript California, and an interface that automatically uploads transcript details into Banner (III.C.1-22). As a result of this project, electronic document imaging has been expanded to several other areas including the President's Office, the CalWORKs program, the Veteran's Program, the Honors Program, and Fiscal Services. Forms that were once filled out and scanned are now being presented as electronic documents; examples of these include the Honors Program Application

and the IT User Acceptance Agreement. Adoption of electronic documents and document imaging continues across campus, resulting in reduced paper usage and streamlined business processes (III.C.1-23 pg. 9).

Degree Works - IT collaborated with Student Services to implement a comprehensive degree audit and educational planning system. Branded the Mountie Academic Plan, this system has been used by students and counselors to create over 35,000 educational plans since it went live in 2013 (III.C.1-24, III.C.1-25). It has also been used by evaluators in Admissions and Records to validate degree completion and proactively identify students who have completed the requirements for a degree or certificate. Thanks to this effort, Mt. SAC was able to fully comply with the requirements of the Student Success Act of 2012 (SB 1456) and give priority registration to students who completed an educational plan.

Web Redesign - In October 2014, President's Cabinet approved a project to redesign the Mt. SAC website to improve navigation, update content with a focus on students, and make it responsive to a variety of screen sizes such as cell phones and tablets (III.C.1-26, III.C.1-27, III.C.1-28, III.C.1-29, III.C.1-30, III.C.1-31, III.C.1-32, III.C.1-33). IT, in partnership with Marketing and Communications, kicked off the project with a Visioning Summit. This summit was attended by a variety of constituent groups who provided input, followed by regular meetings of a web advisory group to guide the effort. The new site was launched in October 2015 featuring a responsive and less-cluttered

design with more visually appealing graphics and buttons catering to prospective students (III.C.1-34, III.C.1-35, III.C.1-36). The site continues to be enhanced with the introduction of a number of new features including presentation in alternate languages, SiteCues for the visually impaired, improved search, an interactive 3-D campus map, and templates to streamline the creation of similarly themed web pages for individual departments.

Online Catalog - In June 2015, IT collaborated with the Instruction Department to implement a new online College catalog that would improve the ability for students to explore programs of study and more easily identify the requirements for degrees and certificates (III.C.1-37). IT developed interfaces to extract curriculum data from the Student Information System and created templates to display the new catalog in a visually appealing and responsive design consistent with the look and feel of our website. The new online catalog was launched for the 2016-17 academic year in May 2016. Features of the online catalog include the ability to "drill down" into the required courses of a given program or certificate to see when it is being offered in the current class schedule, and the ability for administrators to extract catalog rules for import into the degree audit system.

Text Messaging - IT has begun a texting program to reach out to students in their most familiar way, to apprise students of critical information (III.C.1-38, III.C.1-39, III.C.1-40, III.C.1-41, III.C.1-42, III.C.1-43 pg. 2). Recently, messages regarding registration appointments and financial

aid requirements have been sent to over 20,000 students (III.C.1-44 pg. 2).

Managed Print Services (MPS) is being pushed heavily by vendors purporting to save campuses hundreds of thousands of dollars annually. When Mt. SAC was approached, IT took the lead in evaluating the College's current printing costs and determined they were already significantly under those being proposed. However, to provide further benefits, IT works with campus constituents to standardize printers providing additional efficiencies in supply costs (III.C.1-45).

Class Pass System – In May 2013, the President's Cabinet approved a partnership with Foothill Transit to provide free bus passes to students enrolled in credit classes (III.C.1-46). In response, IT staff developed and implemented an innovative and simple system that allows a staff member to verify enrollment through a swipe of an ID card and issue a bus pass to the student in just five seconds without requiring a login or training on our administrative system (Banner). Data is automatically sent nightly to Foothill Transit in order to activate and deactivate bus passes. IT also collaborated with Marketing and Communications using social media and electronic messaging to promote the program. Over 6,300 students received free transit passes for Fall 2013 (III.C.1-47). As a result of this program, Mt. SAC dramatically increased the use of mass transit by students, decreased congestion, improved parking availability, and improved the environment by reducing emissions. This project was awarded the Technology Focus Award for 2013 by the California Community College Chancellor's

Office. In November 2014, students approved a transit fee to make the program a permanent offering for students at Mt. SAC.

IT has a Commitment to Distance Learning

Mt. SAC ensures that technology accommodates the College's curricular commitments for distance learning programs and courses. The IT Department assists in providing distance learning (DL) certification to all instructors prior to the start of all DL classes. In order to meet the needs of DL programs and services, the IT Department, in conjunction with the DLC, spent 18 months properly transitioning from Blackboard to Moodlerooms, continues to assist with training for Moodlerooms. IT is participating in the transition from Moodlerooms to Canvas, and it verifies the student is legitimate through an authentication process.

Furthermore, IT and DL collaborate on committees, as there is an IT representative on DLC and a DL representative on ITAC. The College makes decisions regarding the needs of its technology services, facilities, hardware, and software related to DL programs through interaction among the DLC, ITAC, Academic Senate, Curriculum and Instruction, and Administrative Procedure (AP) 4105 on distance learning (I.B.2-24). It evaluates the effectiveness of its technology training for students and personnel involved in DL through evaluations of faculty who teach online courses, student evaluations, faculty evaluations, and DL course review equal to traditional courses.

IT also assesses the need for information technology training for students and personnel involved in distance education through tutorials available to students, an online training program called STUDY 85C, Professional and Organizational Development workshops, and faculty mentoring (III.C.1-48). Training is designed to meet the needs of students and personnel involved in DL through continual modification of workshops based on student surveys, focus groups, student usability, and faculty focus groups.

The Online Educational Initiative (OEI) pilot program was launched in the spring 2015 term on the current learning management system Moodlerooms. The College offered six sections taught by three different professors in the first term. In spring 2016, the three faculty used Canvas to teach their OEI classes to help determine if the College should adopt Canvas. In fall 2016, the College began a year-long systems migration from Moodlerooms to Canvas. The College is using 30 sections in fall 2016 in a mini-pilot to gain user feedback and plans a larger scope migration in winter and spring 2017. The IT Department has been responsible for provisioning user accounts and course shells in both Moodlerooms and Canvas, and IT will continue this dual-system support throughout 2016-17. IT maintains the Student Information System's enrollment data pushed into the learning management system (LMS), updating student rosters as students add or drop courses. The IT Department provides secure authenticated connections to Canvas via the Mt. SAC Centralized Authentication Server (CAS).

IT branded the LMS to coordinate with Mt. SAC's image.

Mt. SAC's IT Department staffs a Help Desk whose operational hours align with instructional hours to provide sufficient and timely support to students, faculty, and classified staff. Technology resource decisions related to online teaching are based on the results of the evaluation of program and services needs through documentation in PIE (III.C.1-49 pg. 11). Some departments with expensive or complicated software requirements use virtual desktops delivered over the internet to DL students to ensure the students have access to all required software for positive student learning and student success in the DL environment. For example, the Business Division created a Virtual Desktop Infrastructure (VDI) to service classroom computers. VDI allows a student to log in and access the correct software for his/her course. For example, a student taking CISP31 (Programming in C++) is provided the Microsoft Visual Studio IDE to input his/her code.

IT Planning Assures Security

Mt. SAC makes provisions for reliability, disaster recovery, privacy, and security whether technology is provided directly by the College or through contractual arrangements. The IT Department has developed and implemented a Disaster Recovery plan consistent with best practices (III.C.1-50). To make certain that constituents have the most appropriate hardware and software for their needs, the IT Department implemented a computer replacement program. IT implements various monitoring

mechanisms to ensure maximum system and network uptime.

The Assistant Director of Infrastructure and Data Security utilizes various monitoring and testing tools to ensure that the campus network is consistently and appropriately secured against security threats, both external and internal. IT monitors network traffic flow to ensure the health of the network. Systems are monitored for uptime with Nagios and StatusCake. System logs are gathered with Syslog and OSSEC, which are centralized and searched with an event correlation engine. System Center Configuration Manager and Apple Configuration Manager provide client and server antivirus, security patching, software updates, and auditing. Campus systems are regularly scanned for patch auditing and vulnerability assessments. Perimeter security is handled by our Unified Threat Management (UTM) firewall/gateway (III.C.1-51, III.C.1-52).

IT proactively notifies members of the campus community when potential security threats might be encountered by users of College computers or email (III.C.1-53). Servers and data are regularly backed up utilizing IBM Tivoli Storage Manager (TSM) backup software as well as other robust backup tools and off-site storage of backed-up data is utilized on a regular schedule. Servers are routinely backed up by centralized backup agents with centralized management of data backups and restores using TSM. Virtualized environments are backed up and centralized with Veeam. Off-site storage of backups of physical tape with TSM are handled by Iron Mountain on a Monday through Friday schedule. Veeam

backups are copied to offsite cloud storage.

Necessary scheduled outages of essential IT services (email, website, learning management system, portal, etc.) are planned so the impact to the campus community is minimized. Notifications are made well in advance and repeated regularly leading up to the scheduled outage. Support personnel are briefed about the outage and plan for extra support the campus community may need during the outage.

Awards:

Recognized both at the state and College levels for their expertise and customer service, Mt. SAC's Enterprise Application Systems has received multiple awards. In addition, team members delivered presentations about College technology innovations at the several statewide conferences (III.C.1-54 pg. 2).

California Community College Chancellor's Office Technology Focus Award for 2013 (for the Class Pass): (III.C.1-55)

CCPRO award 2014 - (III.C.1-56)

RP Group Excellence in Planning 2015 (for the Decision Support System): (III.C.1-57)

College awards: Innovation and Creativity (2013, 2015), Best Attitude (2014), Rookie of the Year (2013)

Conferences where presentations were given:

- 3CBG / CISOA: 2012, 2013, 2014, 2015
- OmniUpdate national conference: 2015, 2016

- The League for Innovation conference: 2014
- The Research and Planning Group conference: 2014
- CCC Chief Instructional Officers conference: 2015
- Student Success and Support Program conference: 2015

Analysis and Evaluation

Mt. San Antonio College (Mt. SAC) has technology services, professional support, facilities, hardware, and software that are appropriate and adequate to support the College's management and operational functions, academic programs, teaching and learning, and support services.

Accomplishments and Outcomes

- Mt. SAC ensures that its various types of technology needs are identified and are appropriate and adequate based on various sources of input.
- IT evaluates the effectiveness of its technology in meeting its range of needs.
- The College makes decisions about technology services, facilities, hardware, and software through a variety of responses from team and department meetings, Help Desk reports, survey results, and Technology Standard Documents.
- Mt. SAC ensures that technology accommodates the College's curricular commitments for distance learning programs and courses.
- The College makes provisions for reliability, disaster recovery, privacy, and security.

List of Evidence

I.B.2-24	AP4105 Distance Learning
I.B.5-6	PAC Purpose, Function, and Members
III.C.1-1	DLC Members
III.C.1-2	ITAC Members
III.C.1-3	AV Campus Standards Summary
III.C.1-4	AV Standards Summary
III.C.1-5	AV Standards Equipment List
III.C.1-6	AV Scope of Work
III.C.1-7	AV Specification Appendices
III.C.1-8	Technology Standards
III.C.1-9	Technology Master Plan
III.C.1-10	TechQual Survey Results pg. 11
III.C.1-11	Network Enhancements
III.C.1-12	President's Cabinet Action Notes 12-1-2015
III.C.1-13	Alertus Site Survey Agenda 08-16-2016
III.C.1-14	Alertus Agenda Emergency Alter Task Force 3-2-2016
III.C.1-15	IT Manager PIE 2015-16 WiFi Coverage pg. 2, 4
III.C.1-16	OnBase Training IT Website
III.C.1-17	OnBase President's Cabinet Action Notes 03-08-2016 Document Imaging Project Item 7 pg. 2
III.C.1-18	OnBase Imerge Project Plan in Smartsheet
III.C.1-19	OnBase Administrative Services Quarterly Informational Announcement 7-15-2016 pg. 2
III.C.1-20	OnBase Document Imaging Project Overview 3-7-2016 pg. 3
III.C.1-21	OnBase Document Imagining Migration in Smartsheet
III.C.1-22	OnBase Administrative Services' Quarterly Informational Announcement - On Base Implementation of Electronic Transcripts
III.C.1-23	OnBase Expansion of Project to Include Records Retention Component: Board of Trustees 4-13-2016 pg. 9
III.C.1-24	Mountie Academic Plan (MAP)
III.C.1-25	MAP Brochure
III.C.1-26	President's Cabinet Action Notes 10-21-2014 Web Redesign
III.C.1-27	Web Redesign Project PowerPoint 10-28-2014
III.C.1-28	Project Timeline - Web Redesign
III.C.1-29	Web Redesign Project Goals
III.C.1-30	Web Redesign Logic
III.C.1-31	Web Redesign Research Summary
III.C.1-32	Web Redesign Team Members
III.C.1-33	Web Redesign Process Model
III.C.1-34	President's Cabinet Action Notes 7-21-2015 Regarding Web Redesign
III.C.1-35	President's Cabinet Action Notes 3-22-2016 Regarding Web Redesign
III.C.1-36	Email Announcing Interaction Campus Map Accessible Online
III.C.1-37	Course Catalog Website
III.C.1-38	SMS President's Cabinet Action Notes 2-9-2016 Item 1 pg. 1
III.C.1-39	IT SMS Pilot Project Timeline/Summary 5-24-2016
III.C.1-40	SMS Important Enrollment Information 6-28-2016
III.C.1-41	SMS President's Cabinet Action Notes 6-28-2016 Item 3
III.C.1-42	SMS Project Plan in Smartsheet

III.C.1-43	**SMS President's Cabinet Action Notes 5-24-16 Item 8** pg. **2**
III.C.1-44	**SMS Administrative Services' Quarterly Informational Announcement 7-15-16** pg. **2**
III.C.1-45	**Managed Print Services July 16-07241**
III.C.1-46	**President's Cabinet Action Notes 11-25-2014 Regarding Class Pass**
III.C.1-47	**Board of Trustees 8-29-2013 Class Pass Item 1**
III.C.1-48	**POD Website**
III.C.1-49	**PIE - Information Tech 2014-15** pg. **11**
III.C.1-50	**Disaster Recovery Plan**
III.C.1-51	**Network Monitoring**
III.C.1-52	**System Uptime Report**
III.C.1-53	**Security Email Notification**
III.C.1-54	**Board of Trustees Agenda 5-14-2014** pg. **2**
III.C.1-55	**CCCCO Technology Focus Award**
III.C.1-56	**Pro California Awards**
III.C.1-57	**RP Group Awards**

The institution continuously plans for, updates and replaces technology to ensure its technological infrastructure, quality and capacity are adequate to support its mission, operations, programs, and services.

Evidence of Meeting the Standard

The College Plans for Updating and Replacing Technology

Mt. San Antonio College's (Mt. SAC's) Strategic Plan drives technology planning. The Technology Master Plan (TMP) is a manifestation of College Goal #8: The College will utilize technology to improve operational efficiency and effectiveness and maintain state-of-the-art technology in instructional and support programs. The TMP includes updating and replacing the technology infrastructure. From the TMP – "Technology refresh of computers and software based on a 3- to 5-year schedule as appropriate and reasonable based on available funding" to ensure quality is maintained and that it can accommodate the needed campus capacity. The TMP is reviewed and updated by the Information Technology Advisory Committee (ITAC). ITAC reviews the Educational Master Plan and Facilities Master Plan to ensure the TMP strategies are consistent with other campus planning documents. ITAC reviews and updates the TMP about every three years; the last update was 2016. The TMP aligns with the College's mission, operations, programs, and services. Information Technology (IT) requests annual funding through the PIE process and New Resource Allocation Process to meet the goals identified in the TMP. IT works with other teams to jointly provide evidence of the need for system upgrades (e.g., Instruction and IT work together to replace computers in one lab and move older computers to another lab that considers them an upgrade). Components of the TMP include updating infrastructure for speed and capacity. The College maintains redundant circuits from multiple providers (Time Warner Cable and Charter Cable) to ensure maximum reliability. Each provider currently supplies a minimum 1 GB diversely routed circuit to the internet supplied by CENIC, the state supplier to all education institutions. IT is working with the State Chancellor's Office to upgrade the College's internet connectivity to ensure support for future critical learning content such as video-on-demand and other high bandwidth applications.

IT supports academic programs and services by administering the Computer Replacement Program ([III.C.2-1](#)), which replaces staff and faculty computers. IT strives for a five-year replacement cycle for desktop and laptop computers, including both PC and MAC, and a more aggressive four-year replacement cycle for faculty in technology intensive disciplines. The Computer Replacement Program funding was suspended during the recession (2013) but is now funded on an annual basis at a level of $250,000 per annum. During the recession, the Vice Presidents of Instruction and Administrative Services supplemented this budget from their discretionary accounts to ensure that incoming faculty still received new computers and that

systems which could no longer be repaired were replaced. Adjunct faculty have access to computers in designated locations within each division and in the Professional and Organizational Development offices. IT also offers a laptop loaner program via the Help Desk.

Mt. SAC understands the expansion and growth of handheld computing devices on campus. Mobile devices will be specifically addressed in the next revision of the Technology Master Plan (TMP). The rapid growth of mobile technology such as tablets and smartphones is an important trend to address in any discussion of technology at the College. The growth has been so rapid that the previous TMP did not address it adequately, as it was not yet a viable technology. However, the spring 2016 revision of the TMP includes guidelines for how the presence of mobile devices on campus will affect the College's infrastructure and instructional environments and how the IT Department will respond to support a positive impact of this technology in the classroom and on campus. The institution accommodates and supports the myriad devices to the best of its ability. Examples of adjusting to the growing mobile technology at the College include increasing wireless capacity, employing adaptive screen technology on the Mt. SAC web site, and using the MountieApp.

IT Responds to New Construction

Mt. SAC maintains building technology standards as part of the construction process. All new buildings include extensive network infrastructure to support both wired and wireless devices. All classrooms are designed with appropriate infrastructure to support

technology in the classroom such as projectors, smart boards, instructor workstations, and intuitive wall controls.

IT Assists with Technology Needs

The Academic Support Team provides technical assistance for 31 lecture classrooms and 14 computer lab classrooms in the Business Division alone. The College supports and maintains 12 open computer labs for student use, 11 of which are specialized to serve the unique needs of students in areas such as writing, language, computer literacy and computer programming (III.C.2-2). IT has dedicated computer facilities coordinators, computer facilities assistants, and user support specialists for all divisions to ensure the technology is available, properly maintained and aligned with curriculum and learning outcomes. Mt. SAC also supplies 46 classrooms with in-room computer facilities ranging from tablets to computer-assisted design workstations. All appropriate rooms are supplied with ADA-compliant audiovisual services as well. IT has recently begun adding business analysts to the College's team to assist administrative units with analyzing their processes, increasing efficiencies, and enhancing productivity through the use of technology.

IT Plans for Change

IT is in the process of completing a network infrastructure upgrade project. The College changed network standards from CISCO to Hewlett Packard (HP) due to the improved feature set, warranty, and cost effectiveness. IT has replaced all core network and edge devices. The network upgrade includes the capacity for more wireless access, which is an ongoing

need at the College (III.C.2-3). Campus wireless capacity has evolved from early wireless at minimal speed and continues to upgrade to newer technologies. IT is continually evaluating the fastest offerings available from vendors including the latest cutting-edge wireless technologies.

Analysis and Evaluation

Mt. San Antonio College (Mt. SAC) continuously plans for updates and replaces technology to ensure that its technical infrastructure, quality, and capacity are adequate to support its mission, operations, programs, and services.

Accomplishments and Outcomes

- Mt. SAC's Technology Master Plan includes updating and replacing the technology infrastructure at appropriate intervals.
- Mt. SAC maintains building technology standards as part of the construction process.
- IT's Academic Support Team provides technical assistance for classrooms and labs at Mt. SAC.
- IT is continually evaluating the fastest offerings available from vendors including the latest cutting-edge wireless technologies.

List of Evidence

III.C.2-1	Computer Replacement
III.C.2-2	College Computer Labs
III.C.2-3	Campus Map Showing Wireless Access

III.C.3.

> *The institution assures that technology resources at all locations where it offers courses, programs, and services are implemented and maintained to assure reliable access, safety, and security.*

Evidence of Meeting the Standard

Technology Resources are Accessed Reliably

The Information Technology (IT) Department at Mt. San Antonio College (Mt. SAC) provides for the management, maintenance, and operation of its technological infrastructure and equipment. IT employs systems that monitor, manage, update, and report on campus wide computer systems that include workstations, servers, network equipment, and other connected systems.

Technology Resources are Assured to be Safe and Secure

Mt. SAC's IT Department provides an appropriate system for reliability and emergency backup by actively monitoring and managing security products that detect system states through computer system logging and intrusion detection agents. System vulnerability discovery, patching, and remediation strategies are performed on an ongoing basis that includes strategic planning and hardware/software refresh cycles. IT uses IBM Tivoli Storage Manager and other appropriate state-of-the-art utilities for system backups and disaster recovery. Offsite backups are contracted through Iron Mountain (III.C.3-1). IT ensures system availability and uptime by utilizing industry standard high availability systems and methodologies. Hardware and software maintenance contracts are maintained to ensure proper operation and repair of critical systems.

Additionally, IT protects against computer and data theft by providing physical and logical access controls to systems, data encryption, and user awareness training for information security to comply with state and federal laws and regulations. Data security reports indicate active attacks and attempts against College systems. These incidents are actively being detected, blocked, or mitigated. The College employs a log correlation engine to track system logs for trending and analysis of information systems (III.C.3-2). IT employees attend statewide Information Security Advisory Committee meetings for community colleges hosted by the Community College Technology Center (III.C.3-3).

Mt. SAC makes provisions to assure a robust and secure technical infrastructure provides maximum reliability for students and faculty. The IT Department proactively maintains a firewall; an appliance used to restrict unauthorized network traffic, and actively examines data transmissions for unauthorized access attempts. College-supplied computers for students, staff, and faculty are monitored for abuse. Virus protection software is installed on all College-supplied computers. The IT Department continuously provides education to students, staff, and faculty regarding technological issues through community outreach, individualized training sessions, email announcements, and portal

announcements. Additionally, IT provides one-to-one support for many technology related issues for students, staff, and faculty. These issues include password reset, network connection problems, assorted hardware problems, and application support. The IT Department supports the students, staff, and faculty with the IT Help Desk, network administrators, telecommunication technicians, and IT technicians. IT provides trained employees to assist students, staff, and faculty in a multitude of classrooms and labs throughout the College. These employees are trained within the specific discipline of each division to assist with technological needs. The College allocates new computer systems every four to five years to staff and faculty to assure the most useful and safest systems and has created a building-technology standard that ensures new construction and remodels allow for the most flexible installation of current technology.

Quality is Maintained at All Locations of Service

Mt. SAC's IT Department also provides technology resources and support for several locations, including the main campus, the Adult Basic Education Center, and Distance Education. Education for Older Adults (EOA) courses are held in off-campus labs and classrooms. Through partnerships with the cities of La Verne, Walnut, West Covina, Pomona, and San Dimas, EOA provides vocational computer courses within the surrounding communities (III.C.3-4). The College, via the IT Department, provides computers and the cities provide the location along with Internet connectivity.

Mt. SAC provides reliable network and Internet connectivity, which is part of the College's IT Technology Master Plan. Redundancy is provided through multiple failover paths, including the College's Internet service providers, Charter and Time Warner.

IT Staff is Trained

Mt. SAC funds training and support for IT staff to effectively manage technology and to acquire requisite knowledge and skills related to the business of the College use of technology. The campus community gains new skills through various training methods. Computer-based training subscriptions are used by IT staff. The Lynda.com campus license contains updated and current IT related content. The Computer Based Training license for IT staff requires specific knowledge due to gaps in computer-based training not covered by the Lynda.com College subscription. Instructor-led training sessions for specific needs not covered by the mentioned computer-based training options are offered via Professional and Organizational Development. These skill gaps are identified as part of the annual employee evaluation process.

Attendance at security conferences relevant to the needs of the institution, including the CCC Technology Center sponsored security conferences, Security B-Sides Los Angeles, Scale, and other local or regional conferences, is part of the College commitment to ongoing IT training. The outcomes of training sessions are increased knowledge of technologies employed by the College, more secure configurations of the related

technologies, and the ability to maintain implemented solutions more effectively.

Technology Resources are Maintained and Properly Installed

Mt. SAC maintains and properly installs technology resources. This includes the maintenance and cleaning of the Network Operations Center, hardware, and software maintenance contracts. Desktop systems in offices and labs are on scheduled hardware refresh cycles with regular routine maintenance schedules. Ongoing maintenance and replacement cycles of computer systems are critical to a stable and secure computing environment (III.C.3-5 pg. 42). This ensures continued support and maintenance by hardware and software vendors for the systems they operate. This is required to ensure proper and secure operation of all interconnected computer systems at the College.

Analysis and Evaluation

Mt. San Antonio College (Mt. SAC) ensures technology resources at all locations where it offers courses, programs, and services are implemented and maintained to assure reliable access, safety, and security. The College ensures reliability, access, safety, and security for College systems in alignment with information technology industry best practices for meeting compliance needs of systems providing technology services. User awareness training, monitoring, updates, maintenance cycles, and periodic reviews of College systems are used in parity with continuous assessment.

Accomplishments and Outcomes

- IT employs systems that monitor, manage, update, and report on campus wide computer systems.
- IT provides an appropriate system for reliability and emergency backup.
- Mt. SAC makes provisions to assure a robust and secure technical infrastructure.
- The College funds training and support for IT staff to effectively manage technology.
- The College maintains and properly installs technology resources.

List of Evidence

III.C.3-1	Iron Mountain Agreement 2016-17
III.C.3-2	CheckPoint Activity Report October 2015
III.C.3-3	Information Security Advisory Committee Minutes 1-16-2014
III.C.3-4	Computer Lab Brochure: EOA Off-site Computer Classes
III.C.3-5	Vice President's PIE Administrative Services 2015 pg. 42

III.C.4.

> *The institution provides appropriate instruction and support for faculty, staff, students and administrators in the effective use of technology and technology systems related to its programs, services and institutional operations.*

Evidence of Meeting the Standard

Appropriate Instruction and Support are Provided

Mt. San Antonio College (Mt. SAC) provides technology training for students and personnel. Mt. SAC has a full-time training and applications specialist in the Information Technology (IT) Department (III.C.4-1). This position reports to the Director of Enterprise Application Systems.

The IT Department has several part-time computer facilities assistants – staff who provide instructional support services for faculty and students in the use of technology specific to the discipline (III.C.4-2).

The Business Division has a 50-seat open computer lab, which hosts applications specific to the technical programs within the division, as well as accommodating the basic computing needs of students from across campus. Both students and faculty can receive instruction in basic computer use and technical support related to instructional activities (III.C.4-3).

IT maintains a dedicated computer lab with 25 workstations, located in

Building 46, offering professional development and continuing education training to faculty and staff. In the event of a disaster, this room has the systems and software required to run the business operations of the College.

The School of Continuing Education has a WIOA Title II Technology Plan, which is designed to address faculty professional development and student technology training for Adult Basic Education (ABE) and English as a Second Language (ESL) programs. There are two surveys annually to determine the needs of faculty and students in both programs concerning classroom and instructional technology and needed training. Representative faculty, technology coordinators, and managers meet each semester to review surveys and needs. The team then makes recommendations for improvements in technology and follows up with faculty, staff, and student training (III.C.4-4).

IT provides monthly faculty and staff training opportunities, including Argos Report Viewer, Banner, OnBase, Lotus Notes, and OmniUpdate. These are listed on the IT website, and staff can register online through Professional and Organizational Development (POD). Other departments provide training on specific applications in the IT training lab. For example, Fiscal Services provides training on the Banner Purchasing Module. From March 2013 to March 2015, IT scheduled 221 classes on the applications used at the College. IT staff provide training on applications and procedures at meetings on campus such as, the Division Administrative Instruction Team, and Student Services Team. Additionally, the

College invested in a campus wide subscription to Lynda.com to provide self-paced training on a variety of technical and non-technical topics.

Distance Learning Professors Undergo Training and Certification

The College offers a variety of training and information to students and faculty to use technology for teaching and learning in distance education. For students, the College provides a link to short videos and information about online classes and online services for students to succeed. The link to short videos is present in the schedule of classes, schedule note section, as well as direction to the student portal on how to log into and use Moodlerooms (III.C.4-5). Additionally, students receive a portal message about these videos and online services for students (III.C.4-6). The student portal has an e-Learning Resources tab that informs students how to sign on to the learning management system (Moodlerooms) with a "help" button to Moodlerooms help guide and frequently asked questions (III.C.4-7). Some faculty teaching online classes offer an optional in-person orientation to their classes and to Moodlerooms; others prefer teaching hybrid classes so that there is in-person class time to respond to students' learning needs pertaining to Moodlerooms or other online tools the professor may use in the class (III.C.4-8).

The Online Learning Support Center (OLSC) has carried out student surveys and focus groups to find out how to provide information and support to students (III.C.4-9, III.C.4-10, III.C.4-11). The Distance Learning Committee has reviewed results of such student surveys

and used them to recommend changes to the distance learning web page with focused information for students and separately for faculty (III.C.4-12). The result is a distance learning web page for students that prioritizes information they need, and the link to that web page from the class schedule notes. The Learning Assistance Center (LAC) and OLSC jointly conducted another student survey on technology needs to keep improving on how the College get information and provide support to students (III.C.4-13).

The College is participating in the state's Online Education Initiative (OEI), a grant-funded effort to improve the quality of distance education and to facilitate students' efficient path to completion through an online course exchange among participating California community colleges. Through OEI, the College's six pilot classes (psychology, human geography, and administration of justice) receive a bevy of online resources including the Quest Program, an online readiness program for student who are registered in these pilot classes. The Quest Program has two tracks: one for students new to online classes, and the other, for students with experience taking online classes (III.C.4-14). Completers of the Quest Program receive a detailed report on how well they are prepared to take online classes with direct links to resources to address areas of need, such as time management or study skills (III.C.4-15, III.C.4-16, III.C.4-17).

All computer labs on campus are staffed with personnel to show students how to use myriad software for their learning, including those taking online classes (III.C.4-18). The LAC, for example, has a

Learning Lab staffed with technical assistants, tutors, and faculty of record to provide just-in-time assistance as students navigate the online tools, including how to log into the student portal, how to use Moodlerooms, and how to use email attachments, among other functions. Out of 802 Learning Lab, tutoring sessions since spring 2015, 107 (13 percent) responded to technical questions, including Moodlerooms or requests for assistance with other online tools. In 2014-2015, the Learning Lab services were evaluated and the availability of both tutoring assistance and technical assistance was rated highly: over 80 percent of respondents were satisfied or very satisfied with the assistance available. The survey was used to design a Student Learning Outcome (SLO) regarding time management, as students did not indicate a need for additional technical assistance.

The College offers a couple of sections of STDY 85C Online Learning Success Skills course each semester. They are designed to teach students to be successful online learners. It addresses communication, time management, and collaboration and research strategies in online environments. This course is assessed through the SLO process, and evaluated in the same manner as all courses; results are used to continuously improve instruction. STDY 85C classes have not had strong student demand. Therefore, only one or two sections are offered each semester, reaching 70 students per semester.

For faculty and staff, the OLSC offers information sessions on how to use Moodlerooms through semi-annual

eLearning Week workshops and by appointment. These workshops are offered through POD and are publicized campus wide (III.C.4-19). To have an account in Moodlerooms, faculty and staff users are required to complete Moodlerooms Basics, offered in-person or online, and they may attend more training sessions on specific topics such as how to use Moodlerooms gradebook or how to caption videos or how to make their course content accessible. In addition to the Moodlerooms specific training sessions, to which all employees are invited, IT also offers training sessions on how to use Banner faculty self-service modules for checking rosters, entering grades, and other class management functions. Training sessions for these instructional support tools are offered to faculty who teach regular and online classes and to staff who provide services to students in person or online.

Training is Appropriate and Effective

Mt. SAC ensures the training and technical support it provides for faculty and staff are appropriate and effective. The institution provides technical training for IT staff. Methods include in-house contracted workshops, contracted online training, and funding staff to travel to workshops hosted by the vendor. Students and staff can receive instruction and support from the College's IT Help Desk (III.C.4-20, III.C.4-21). The Help Desk is available from 7:30 a.m. to 10:00 p.m. Support requests can be submitted via

phone, e-mail, or through an online form. Student Services through mandatory New Student Orientation provide instruction and support for using technology such as the Mt. SAC Portal (for registration) and the Mountie Academic Plan (online degree audit and educational plan). Orientation can be completed online or in person.

Analysis and Evaluation

Mt. San Antonio College (Mt. SAC) provides appropriate instruction and support for faculty, staff, students, and administrators in the effective use of technology and technology systems related to its programs, services, and institutional operations.

Accomplishments and Outcomes

- Mt. SAC provides technology training for students and personnel.
- Instructors, who teach online classes, must be trained and certified in the use of MoodleRooms.
- Mt. SAC ensures the training and technical support it provides for faculty and staff are appropriate and effective.

List of Evidence

III.C.4-1	Job Description for Training and Application Specialist
III.C.4-2	Job Description for Laboratory Technicians
III.C.4-3	Description of Business Division Lab
III.C.4-4	WIOA Title II Technology Plan
III.C.4-5	Schedule Note Showing Direct Link to Distance Learning Webpage for Students
III.C.4-6	Sample Student Portal Message about Online Videos and Tips for Online Success
III.C.4-7	Moodlerooms Support Website
III.C.4-8	Schedule Note Describing Optional In-person Orientation
III.C.4-9	Email Announcing the New Online Learning Readiness Survey for Students 10-2012
III.C.4-10	Student Survey on Distance Learning Program with Raw Data
III.C.4-11	Student Focus Group on Distance Learning with Raw Data
III.C.4-12	Distance Learning Committee Minutes 10-9-2012
III.C.4-13	Technology Training Student Survey Report Spring 2016
III.C.4-14	Online User Quest Program
III.C.4-15	Email for Online GEOG Question Program
III.C.4-16	Question Program Online Readiness Descriptive Stats 12-2015
III.C.4-17	Quest Program Student Data 6-2016
III.C.4-18	Mt SAC Computer Lab Brochure 2016
III.C.4-19	Technology Workshops for Employees POD Calendar of Activities 2-2016
III.C.4-20	Help Desk Webpage
III.C.4-21	Online Learning Support Center Webpage

III.C.5.

The institution has policies and procedures that guide the appropriate use of technology in the teaching and learning processes.

Evidence of Meeting the Standard

Policies and Procedures Guide Appropriate Use

A representative of the Information Technology IT Department is a part of the President's Advisory Council (PAC) and provides input into future needs and plans to provide appropriate instruction and support for faculty, staff, students and administrators in the effective use of technology in relation to programs, services, and campus operations. Through advisory committees, IT gains feedback to provide appropriate support for career and technical education. Individuals with disabilities are also supported by accessibility standards for library technology. Finally, IT delivers appropriate instruction regarding the acceptable use of computers and support for distance learning courses.

Decisions are Made Following Policies and Procedures

Mt. SAC makes decisions about the use and distribution of its technology resources in the teaching and learning processes based on its policies and procedures. Governed by budgetary considerations and constraints, technology resources that are allocated to students, staff, and faculty. Board Policy (BP) 3250 and Administrative Procedure (AP) 3250 ensures IT is represented in the budget planning process (III.C.5-1, I.A.3-5). Keeping technology accessible to staff, faculty, and students with disabilities, whether using classroom, lab, or library services are enforced by BPs 3440 and 5140 and APs 3450 and 4040 (III.C.5-2, III.C.5-3, II.B.1-16, II.B.1-15). Mt. SAC is committed to current, relevant technology education. The College has created advisory committees to serve as liaisons between the College and potential employers. This is detailed in AP 4102 (III.C.5-4). Mt. SAC adopted an acceptable use policy and procedure for technological equipment. BP 3720 and AP 3720 detail the College's acceptable use policy for students, staff, faculty, and others granted use of College technological resources (III.C.5-5, I.C.10-7). These policies include personal computers, workstations, printers, associated peripherals, and software, regardless of whether used for administration, research, support services, or instructional purposes. These policies also address issues regarding data privacy and data access as well as consequences for non-compliance. When employees sign onto computers on campus, they are presented with an acceptable use reminder screen they must acknowledge and accept before signing onto the College system. Use of the Internet in classrooms is acceptable within the boundaries of the approved curriculum and needs for students' learning.

Policies for Distance Education are in Place

Mt. SAC adopted Administrative Procedure (AP) 4105 for Distance Learning (I.B.2-24). This policy includes a definition of distance learning courses, the course approval process, the faculty certification process, the student authentication process, course evaluation requirements, and student support. Distance learning has a required Skills and Pedagogy for Online Teaching (SPOT) training. The training is required for all faculty who teach an online class at Mt. SAC.

Analysis and Evaluation

Mt. San Antonio College (Mt. SAC) has policies and procedures that guide the appropriate use of technology in the teaching and learning process.

Accomplishments and Outcomes

- Information Technology provides input into future needs and plans to provide appropriate instruction and support by having a representative on the President Advisory Council (PAC).
- Mt. SAC makes decisions about the use and distribution of its technology resources in the teaching and learning processes based on its policies and procedures.
- Policies are in place for technology and distance learning.

List of Evidence

I.A.3-5	AP3250 Institutional Planning
I.B.2-24	AP4105 Distance Learning
I.C.10-7	AP3720 Computer and Network Use
II.B.1-15	AP4040 Library and Other Instructional Support Services
II.B.1-16	AP3450 Accessibility of Audiovisual Media - Captioning
III.C.5-1	BP3250 Institutional Planning
III.C.5-2	BP3440 Individuals with Disabilities
III.C.5-3	BP5140 Students with Disabilities
III.C.5-4	AP4102 Career and Technical Education
III.C.5-5	BP3720 Computer Use