San Diego Miramar College Technology Plan 2.0

(*The Next Generation*)

Three Year Rolling Technology Plan
Fall 2017-Spring 2020

Draft Date: 2/28/2017

Contents

College Mission Statement and Strategic Goals

San Diego Miramar College has an integrated planning framework that uses its strategic plan as the overall guide for all campus planning. The 7-year strategic plan, with a midterm 3-year assessment update, sets forth four common goals and specific strategies developed with participation of all campus constituencies.

The Technology Operational Plan is developed within the context of the San Diego Miramar College's mission and guided by its strategic goals as noted below. In addition, it is consistent with and directly linked to the college's Program Review process.

Mission Statement

San Diego Miramar College's mission is to prepare students to succeed in a complex and dynamic world by providing quality instruction and services in an environment that supports and promotes diversity, equity, and success, while emphasizing innovative programs and partnerships to facilitate student completion; for transfer, workforce training, and/or career advancement.

Strategic Goals

Strategic Goal I: Provide educational programs and services that are responsive to change and support student learning and success.

Strategic Goal II: Deliver educational programs and services in formats and at locations that meet student needs.

Strategic Goal III: Enhance the college experience for students and the community by providing student-centered programs, services and activities that celebrate diversity and sustainable practices.

Strategic Goal IV: Develop, strengthen and sustain beneficial partnerships with educational institutions, business and industry, and our community.

The full the Miramar College 2013 -2019 Strategic Plan: http://www.sdmiramar.edu/institution/plan

Technology Committee Membership

2016-2017

Daniel Miramontez, Co-Chair	Dean, School of PRIE, Library & Technology
Kurt Hill, Co-Chair	Instructional Computing Support Supervisor
Alan Viersen	Faculty, School of Business, Technical Careers & Workforce Initiatives
Glenn Magpuri	Supervisor, Library & Audio Visual
Gene Choe	Faculty, Academic Senate Representative
Todd Williams	Administrative Computing Support Specialist
Lou Ascione	Dean, School of Liberal Arts
Ken Reinstein	Faculty, School of Liberal Arts
Vacant	Faculty, School of Public Safety
Eric Brown	SDCCD Office of Information Technology Representative

2015-2016

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Glenn Magpuri	Supervisor, Library & AV
Gene Choe	Faculty, School of Business, Technical Careers & Workforce Initiatives
Lou Ascione	Dean, School of Liberal Arts
Ken Reinstein	Faculty, School of Liberal Arts
Eric Brown	SDCCD Office of Information Technology Representative

Technology Plan Purpose and Goals

The purpose of the San Diego Miramar College Technology Plan is to provide clear direction to college-wide technology support departments and participatory governance committees, and information to the staff, faculty and management regarding the state of campus technology, resources, and current or upcoming technology initiatives.

The goals of the plan are:

- Facilitate learning and teaching by providing faculty with information about campus technology
- Be an effective framework for participatory governance when allocating resources for technology
- Be an effective framework for Accreditation standards related to technology
- Ensure plans are aligned with the college Strategic Plan and Mission

Technology Plan Development

The college Technology Plan is developed under the purview of the campus Technology Committee. The committee has recently reconstructed the process to provide for a true three-year "rolling" plan, appropriately called "Technology Plan 2.0 (The Next Generation)". This plan represents the first of the 2.0 plans. The three technology departments on campus, Instructional Computing Support, Administrative Computing Support, and Audio Visual are tasked by the Technology Committee to develop three year plans for their respective areas. Taskstream and Program Review are now fully integral to this process and provide a solid basis for the review of past years, and planning for future years. For example, the "Program Review and Service Unit Outcomes" provide a clear view of past years planning and relevant outcomes. Another integral component to this process is the Technology Committees interaction with the Budget and Resource Development Committee (BRDS). BRDS provides the necessary funding and, importantly, projected funding from which plans can use the information during plan development and updates. The Technology Committee, which contains members from a cross selection of schools and functional areas, reviews and provides feedback on the plan prior to submission through the participatory governance process.

The Technology Plan is aligned to the Academic Calendar, and plan years start at the beginning of the fall semester and runs through the end of the spring of the following calendar year.

Information about Technology Support Services at Miramar College

The college technology support services consists of four departments supporting Miramar College. Audio-Visual, Instructional Computing Support and Web Services operate under the School of Planning, Research, Institutional Effectiveness, Library and Technology.   Administrative Computing Support operates under the SDCCD Office of Information Technology.

Administrative Computing Support (ACS)

- Office information: L-114D
- Office Hours: 7:00AM – 3:30PM
- Department line: 619-388-7743
- Department email: twilliam@sdccd.edu
- Supervisor: TBD

Administrative Computing Support is responsible for the setup, configuration and maintenance of faculty and staff computer, peripheral and other campus-based administrative IT systems.

Audio Visual (AV)

- Office information: L-111
- Office Hours: Monday - Thursday 8:00AM – 10:00PM
  Friday 8:00AM – 12:00 noon
- Department line: 619-388-7317
- Department email: avmira@sdccd.edu
- Supervisor: Glenn Magpuri
  gmagpuri@sdccd.edu

The Audiovisual (AV) department is located on the first floor of the LLRC (Library and Learning Resource Center). The department houses a media viewing center for students as well as a full production studio, photo and video production rooms. The AV Department provides AV equipment and support staff for campus activities and events such as outreach and marketing. They develop audio and video for various campus programs to inform and raise awareness for prospective students in the community about Miramar programs and services, and provide training to Faculty and Staff on the various audio-visual systems on Campus.

Instructional Computing Support (ICS)

- Office information: L-114F
- Office Hours: 8:00AM – 4:30PM
- Department line: 619-388-7387
- Department email: miramar.ics@sdccd.edu
- Supervisor: Kurt Hill
  khill@sdccd.edu

Instructional Computing Support (ICS) is responsible for all instructional computing at San Diego Miramar College. This includes the over 1,500 computer systems, laptops and special-purpose systems (e.g., flight simulators, dedicated instrumentation computers) as well as peripheral equipment such as printers, scanners, etc. used in the classroom. ICS is responsible for necessary software installation as

needed in various instructional labs as well and ensuring full licensing compliance. ICS maintains the campus pay-for-print systems.

SDCCD Office of Information Technology (SDCCDOIT)

- Office information: District Office
- Office Hours:
- IT Helpdesk: 619-388-7000
- Department email: ithelp@sdccd.edu
- Director: TBD

The SDCCD Office of Information Technology oversees administrative enterprise technology for the district. The campus Administrative Computing Support department reports through SDCCDOIT. In general, issues with enterprise services or other non-instructional IT requests should be reported through the IT helpdesk, x7000.

Web Services

- Office information: L-114G
- Office Hours: 8:00AM – 4:00PM
- Department line: 619-388-
- Department email: btsmith@sdccd.edu
- Supervisor: Daniel Miramontez
  dmiramon@sdccd.edu

Web Services provides campus website development and support, and is here to assist the college with requests, training, and issues regarding the college website. This department generates new pages as required, maintains the website, and corrects any errors, and trains faculty and staff in content management. Appointments may be made for training.

Technology Plan and the Participatory Governance Structure

The Technology Plan has always been a function of the Participatory Governance process, and is produced by the Technology Committee. The plan is developed as a three-year "rolling" plan, which means it speaks to future plans, three years out, but is reviewed and updated annually.

As part of the college's Program Review process, the Budget and Resource Development Committee (BRDS) and the Technology Committee work together to review and prioritize many technology funding requests, in particular, "Requests for Funding". Annually, the BRDS subcommittee collects these requests and forwards them to the Technology Committee for its review and ranking of technology requests. A guiding rubric for ranking technology requests is included in Appendix C.

2015-2016 Technology Plan Review

Overview

In 2014-2015, the campus implemented Taskstream as its primary reporting mechanism for the various instructional support areas. Additionally, the Technology Committee undertook a complete redesign of the Technology plan, with a focus on making the plan more proactive, aligning it with college strategic goals and mission statement, and providing a better framework for various campus functions, including budgeting and planning. Furthermore, given that Accreditation is in large part a *by-product* of what we do (in other words, Education is what we *do*, Accreditation is a *by-product* of providing a quality education), the new technology plan should result in an easy translation from planning and review to any required accreditation documentation on technology (e.g., "Standard III.C").

Administrative Computing Support (ACS)

In June of 2015, the campus ACS support staff retired, leaving a gap in service for administrative systems. This gap was only partially covered by District IT staff, during the 2015-16 academic year. As a result, several items of concern became apparent during this time. First, the campus administrative systems did not use any standard password, which greatly impacted the ability of ICS, as well as District IT staff, to help end-users. Having a single person, in isolation, responsible for ACS resulted in other issues as well – as no one else in at the campus IT level knew what projects were underway, what equipment was slated for, etc. However, give the issues during the 2015-16 academic year, the college was able to pull together and serve end-users under the purview of ACS.

Please see District Technology Master Plan 2016-18 for details

Audio Visual (AV)

Part of the AV department's responsibilities is the planning, design, coordination, facilitation, and integration of AV instructional technology on campus. The AV department regularly works with faculty, staff, administrators, and AV integrators to meet the pedagogical and administrative audiovisual technology needs of the Miramar campus by planning the integration of new technology on campus. Additionally, the AV department frequently works with campus administrators, faculty, and staff to create video and audio productions, including the captioning of such media, which may ultimately be distributed for public consumption for marketing and/or pedagogical purposes. When inter-campus or extra-campus video conferencing setups must be accomplished, the AV department is the one that coordinates with the relevant parties to ensure the video conferencing is accomplished.

A large part of the AV department's responsibilities is overseeing the research, purchase, setup, maintenance, security and status of equipment. AV inspects, maintains, and inventories all AV equipment across campus, including new acquisitions and the transfer of old equipment. Whenever new equipment is purchased, or whenever a new faculty or staff members comes to the campus, the AV personnel train the relevant faculty and/or staff members on the use of said equipment. Furthermore, whenever there is a special event on campus that requires special assistance with audiovisual technology, the AV department provides assistance in setting up, operating, and breaking down the audiovisual equipment used for that event.

Currently, the Miramar AV Department is staffed by one full-time Instructional Support Supervisor (1.0) and two full-time Instructional Lab Technicians (2.0).

Program Review and Service Unit Outcomes

AV created a program review and series of action items in the Taskstream system in 2015. A summary list of statuses follows:

- Purchase new up-to-date Smart/AV Equipment and replacement of aging Smart/AV equipment. *AV has requested funding for the purchase of new smart AV equipment for instructional and administrative support, special events, and media productions.*

- Provide sufficient staffing for AV-related campus Instructional and student support. *To meet the growing demand of Audiovisual Services, The AV Department needs to establish and fund two new full-time contract positions, one Media Clerk and one Media Technician. Currently, there are only 2 Contract Staff working in the Audiovisual Department. The Audiovisual Department overall served 376 administrators, faculty, staff, and students in the last fiscal year alone. In order to sustain hours and access to AV services the campus must immediately support an increase in AV staffing levels by a total of 4.0 contract staff.*

- Increase the capital outlay and supply budgets to meet the growing need of the department *With the recent campus expansion and increase in the number of students and faculty served, the Miramar AV department is receiving unprecedented demands for equipment maintenance and design, special event services, and media production requests. . In order to accommodate the growing student and faculty needs, the AV department requires an increase to its capital outlay and supply budgets.*

- Provide professional development to AV staff on the latest audiovisual technologies. *Technology and pedagogy in a post-secondary environment are constantly evolving The AV Department has the responsibility of liaising with and advising faculty and administrators*

regarding campus audiovisual technology integration and media production. In order to keep up with the state of post-secondary pedagogical technology and media, the AV Department requires regularly training and attendance at seminars that keep staff up to date on technology and pedagogical trends.

- To have available power for remote locations (completed)
  This goal was met in 2016.

- To have a budget for lamp reserves for campus projection units
  In order to accommodate and meet the campus projection lamp needs and requirements, bulbs on reserve are necessary.

- Campus-wide Smart/AV Classroom Technology update, renovation and replacement.
  This responsibility has been allocated to other departments outside of AV.

Instructional Computing Support (ICS)

Several important events happened in the 2015-2016 fiscal year. The campus received a large block of funding due to the recovering economy and restoration funds. This resulted in the largest block of non-bond funding for IT in recent memory. In prior years, the Budget and Resource Development Subcommittee (BRDS) planned for 80% of IELM funding to go towards "technology refresh". As a result $336,000 was available for campus instructional technology.

IELM Technology Funding Expenditure Strategy

Given that the IELM Technology funds are the largest source of planned funds for campus instructional computing needs, it is appropriate to include the manner in which these funds are used in the campus Technology Plan.

IELM funds are expended in two rounds. The first round expends the bulk of the funding towards planned infrastructure and campus equipment replacement, but leaves a planned reserve amount for expending towards the end of the fiscal year. The reserve is meant to accommodate any "X factors" that may have been missed in initial planning. Near the end of the fiscal year, the remaining funds are used to purchase additional campus equipment (laptops, printers, and computers). Any unplanned "X factors" would typically be related to infrastructure needs.

The exact amount held back can vary greatly based upon a number of factors, such as the scope of any new technology initiatives or the size of various campus labs in need of replacement, so there is no set percentage.

Program Review and Service Unit Outcomes

ICS created a program review and series of action items in the Taskstream system in 2015. A summary list of the items statuses follows:

- Utilize professional consulting for thin-client/VDI project
  Initial consulting service provided in November, 2015 was not at the level requested. A further three days of consulting was arranged for and provided in March, 2016 to complete the contract.
- Staffing Needs: Enterprise Network Specialist and Lab Tech
  ICS has requested additional staffing for a number of years. In particular, a Network Specialist and a Lab Tech. It was identified that the request for a Network Specialist needs to be changed to a request for an Enterprise Network Specialist given the higher range of duties being performed. Staffing needs are currently being reviewed.

- Enterprise Software Licensing
  The ICS budget is insufficient to maintain current licensing, therefor this will remain an action item until line-item funding is sufficient to cover these costs. Progress has been made, as indicated by a recent increase to ICS 5xxx budget.
- Purchase Supplies & Materials
  ICS was provided nearly $16,000 for campus instructional supplies with a target to expend by January 2016. ICS is currently significantly behind in expending these funds due to the arbitrary $200 definition of a supply item, the implementation of the new ERP system and a myriad of other projects and deployments competing for staff time. ICS has currently (as of March, 2016) expended about $9,500 towards supplies.
- IELM Technology Refresh
  ICS has currently (as of March, 2016) expended approximately $140,000 of $336,000 towards technology refresh. Expenditures to date have been focused on infrastructure. $65,000 is currently targeted towards campus equipment (computers, printers, laptops), with up to $90,000 planned for the second round

SDCCD Office of Information Technology (SDCCDOIT)
Please see District Technology Master Plan 2016-18 for details

Web Services

Much of the work done by Website Development and Support has involved the pending overhaul of the campus website. In early 2015, the existing website was given a cosmetic makeover, which included a simplified menu structure. This makes it easier for students to look at the main menu, and see what they are looking for at a glance.

Website Redesign & Software Upgrade

The College uses the Drupal content management system platform, enabling each department to maintain its own web content. Until 2014, there was little to no training budget, so Web staff were self-taught. This meant that the campus website served as both an active web presence and a training lab. Development was slow and often based on the correction of programming and configuration errors. Web staff are now able to attend Drupal classes and workshops once or twice a year, which promises to speed development.

The college currently uses version 6 of the Drupal platform. As end users become more familiar with content management, we are receiving requests for more advanced features which are not available in 6. For this reason, the department began planning for a software upgrade. Drupal 7 is the current most stable version of the software. It provides easily accessible advanced features, a more customizable appearance, and will be supported for several more years.

Currently, Website Development and Support also occasionally performs photography and graphic design as needed for both the production website and prototypes. The most significant imperative for the new website is that it be competitive, in appearance and features, with any other top-of-the-line higher education web presence (for examples, see MiraCosta, Antelope Valley, Columbia).

Program Review and Service Unit Outcomes

Training of website staff is an ongoing concern. In addition to the annual DrupalCon and the local SANDCamp training events, it would be helpful if budget could be found to subscribe to an online Drupal

training service. Drupalize Me and Build A Module both offer excellent subscription-based online courses. These steps will provide the foundation needed to keep the website and associated technologies timely through the fiscal year and into the next decade.

It can be seen from observing cutting-edge college websites that these sites feature many high-quality graphics—far more than a small Web department is able to produce. If Miramar is to join their ranks, among the department's most critical needs (if not the most critical) is greater graphics support in the form of an extensive library of photos. Many more of these than we now have should be people-centric.

Training

Toward the end of the previous fiscal year, there was considerable staff interest in learning to maintain website content. Website Development and Support conducted a number of training classes. Even with the initial phase of training over, many employees still require review and ongoing training. Most training is now done on an informal, one-on-one basis.

Another aspect of this departmental function is the creation and maintenance of training materials. Handouts are currently up to date, but will require revision in the next few months. For the rollout of the new college website, a complete rewrite of handouts will be required.

Other

Website Development and Support is currently staffed by one individual, the College Web Designer, with substantial input and assistance from Instructional Computing Support.

Fall 2017-Spring 2020 Three Year Technology Plan

Summary

Administrative Computing Support (ACS) was staffed in the spring 2016, and has had little time to prepare long-term plans. However, ACS was able to provide a general strategy of focusing on leveraging the enterprise features of Active Directory to enhance administrative systems support.

Audio Visual (AV) plans to begin use of the "Production Studio" and enhance it as funding allows over the next three years. A new initiative, providing "e-learning" training modules is planned to be rolled out in 2019-2020, which will provide a more efficient means to train new faculty/staff on the use of A/V equipment.   Additionally, AV will work to enhance "Bring-Your-Own-Device" (BYOD) support in smart classrooms.

Instructional Computing Support (ICS) has begun deploying Windows 10 systems, and is in the process of overhauling its current imaging process to support newer Operating Systems, and automate image build procedures. Currently, ICS is managing multiple hypervisor and storage technologies, and will need to consolidate to single systems for ease of management.

Web services will be rolling out an updated college website in the summer 2017. Furthermore, there is a plan for a pattern of major-minor updates in alternate years. Web services also plans to look at providing mobile-app like functionality into the new mobile-friendly version of the college website.

Departmental Technology Plans

Administrative Computing Support (ACS)

Please see District Technology Master Plan 2016-18 for details

Audio Visual (AV)

2016-17

In January 2017, AV plans to begin utilizing the audiovisual production studio and continuing audio visual technology refreshes throughout the Miramar campus. Additionally, AV plans to continue serving campus end users by providing Special Event assistance, Media Productions, training and troubleshooting. As the amount of equipment under warranty continues to increase and as the number of special events and production requests continue to increase, AV will continue to seek additional contract personnel and hourly support. Specifically, AV will seek two full-time Media Technicians and an increased hourly support budget. In 2016, AV refreshed the technology in rooms such as I101A, Police Academy classrooms A223, A227 & A228, as well as Child Development room F209 & F212. Additionally, in 2017 AV plans to continue refreshing technology in classrooms such as H-210, J224, and J225. AV equipment in these rooms is in desperate need of a refresh.

AV Repairs, Updates, and Refreshes

There are several buildings on campus that will be out of warranty and require system updates, repairs, or a complete AV technology refresh in the 2016-2017 fiscal year. Among the buildings that will be out of warranty and will likely need some form of repair during this year are the following: the Automotive Building, the "F" Child Development Building, the "F1" Aviation Building, the College Services Center Building, the "H" Humanities Building, the "L" Library and Learning Resources Center Building, the

"A200" Police Academy Building, the Police Substation, the "S5" Science Building, and the "C2" Diesel Technology Building. The AV Department plans to continue the systematic tracking of instructional technology equipment in these buildings, including wear and tear and need for replacement. As the need for replacement arises, the AV Department will coordinate with the end users, research to find the most pedagogically/administratively effective instructional technology at the greatest value to the District, draft designs to implement the necessary updates/repairs/refreshes in those rooms, and oversee that integration.

Production Studio Upgrades and Services

As more Miramar end users begin taking advantage of Miramar AV production capabilities thanks to the new AV Production Studio (to be completed by January 2017), the demand for updated media production-related hardware, software and storage will necessarily increase. Thus, the AV Department plans to continue researching the most effective media production equipment and methodologies and purchase new studio equipment accordingly. Provided the AV Department receives the requested additional funding for staff and equipment, in the 2016-2017 year the AV Department plans to provide one new campus media production.

Digital Signage Refresh

In the 2016-2017 fiscal year, two digital signage kiosks in the L-building will be out of warranty and will require a hardware/software upgrade. Currently, the digital signage systems used by the campus is by a company called Visix and were installed back in 2012. The Audio Visual Department works with District IT regarding the implementation, maintenance and training of the digital signage systems. From the date of install, the system is warrantied for 3 years.

Ongoing Professional Development for AV Staff (Conferences, Classes, Webinars, Certifications)

Ongoing professional development for AV Staff is essential to keeping abreast of the latest technology available in the market. From Conferences, Classes to Webinars and Certifications, the Audio Visual Staff must continually update their knowledge in all things AV. Attendance of conferences will expose AV Staff to every sector of the industry including Education, Broadcast, Digital Media, Film, Entertainment, Telecom, Post-Production, Academia, Advertising, Security, Live Events and Online Video. AV staff also meets with manufacturers, systems integrators, dealers and distributors, independent consultants, programmers and multimedia professionals to help develop AV standards.

Examples of Conferences, Classes, Webinars, and Certifications include:

- NAB - NAB Show is an annual trade show produced by the National Association of Broadcasters.
- INFOCOMM - is the trade association representing the professional audiovisual and information communications industries worldwide.
- EDUCAUSE – The EDUCAUSE Annual Conference is the premier convening of AV/IT professionals and technology providers across the diverse higher education landscape. The conference creates networking opportunities for colleagues to share idea regarding strategies, leading change, effective processes, what's working, and sometimes – more importantly – what isn't.
- Vendor Technology Conferences – hosted by SDCCD vendors Southland Technology and GST

2017-18

In 2017-2018, the audiovisual department will focus on the following:

- The audiovisual production studio upgrades and services to continue throughout the 2017-2018 year. Provided the AV Department receives the requested additional funding for staff and

equipment, in the 2017-2018 year the AV Department plans to provide one new campus audiovisual media production. This year the department plans to acquire new technology and support staff to accommodate campus musical performances, including "back-line" and "front-line" musical equipment (instrument amps, microphones, percussion/drum kits), sound processing equipment (compressors, limiters, equalizers, etc.) as well as stage/performance lighting.

- With a few exceptions, the majority of buildings on campus utilize outdated analog technology rather than the current digital standard. Most classrooms still *only* have VGA laptop connections, even though Intel and Advanced Micro Devices phased out chipset support for VGA back in 2015. Today almost all PCs and laptops come with either a HDMI or digital display port video out, yet our S5 Science, Automotive, "F1" Aviation, "F" Child Development, "M" Math and Business, College Services, "H" Humanities, "L" LLRC, "A200" Police Academy, Police Substation, and "C2" Diesel Technology buildings have no HDMI or digital video connections. In order to accommodate the current needs of instructors and students, the AV Department will work with campus end users who have a designated budget to integrate digital connectivity into their respective areas. With instructional technology becoming more digitally focused, and with more a/v options available over twisted pair connections, the AV Department will also work with departments who have a designated budget to have CatX twisted pair and/or other digital line runs integrated into their respective areas for future expansion.
- Continue to provide faculty and administrative assistance with the integration of new digital signage and digital signage refreshes.
- Continue to attend conferences, seminars, webinars and trainings for certifications and professional development. AV will request funding to accomplish these necessary training activities.
- Miramar College's smart classrooms as well as conference and specialty rooms are equipped with Extron's IP Link-enabled products that would allow for remote access and AV monitoring. Setup of Extron's GlobalViewer will increase maintenance efficiency and product life of projectors and other AV equipment. Extron's GlobalViewer is a Web-based AV resource management and remote control application for institutional AV environments. Together with IP Link-enabled products or IP Link control processors, GlobalViewer provides a powerful, flexible way to manage, monitor, and control both Extron and third-party equipment like projectors, plasmas, monitors, VCRs, DVD players, and other devices using a standard TCP/IP network. Assuming the Miramar AV Department receives the requested staff and equipment funding in the 2017-2018 year, the Miramar AV team plans to have GlobalViewer capability on line.

2018-19

In 2018-2019, the audiovisual department will focus on the following:

- Plans to utilize the audiovisual production studio to provide two new campus audiovisual media productions. Also, the department will continue to assist with the design integration for analog-to-digital upgrades as needed.
- It is critical that Miramar implement BYOD (Bring Your Own Device) wireless integration across the campus. Updating instructional audiovisual technology not only means updating the relevant hardware, but also updating the methodologies to conform to the latest pedagogical and administrative standards. The question of whether campuses must accommodate "BYOD" functionality is closed. According to the April 2014 University Business.com article, "BYOD

Boundaries on Campus," at least 42 percent of colleges and universities had a BYOD strategy in place in 2014. That article also pointed to a 2014 Educause study that found that an estimated 60 percent of college employees use their own devices at work. Many secondary and post-secondary institutions have already implemented technology initiatives that aim to provide BYOD in the classroom (see https://www.washingtonpost.com/local/education/stem/schools-move-toward-bring-your-own-device-practices-to-boost-student-tech-use/2014/09/14/4d1e3232-393e-11e4-9c9f-ebb47272e40e_story.html).

- Continue to work with District Technology to integrate wireless devices that permit BYOD and wireless functionality, such as the Extron Sharelink 200, Miracast displays, Chromecast, and Apple TV. Currently, the AV Department has plans to integrate this type of BYOD wireless integration in the new Police A300 Mat Room and the Child Development renovation projects. The Miramar AV Department will continue to conduct research on trends in BYOD wireless classroom technology integration, work with District IT and end users, design plans, and oversee the integration necessary to bring BYOD wireless functionality to our learning and administrative environments. By the end of fiscal year, the AV Department aim to have 20% of the campus classrooms BYOD integrated.
- Continue to provide faculty and administrative assistance with the integration of new digital signage and digital signage refreshes.
- Continue to attend conferences, seminars, webinars and trainings for certifications and professional development. AV will request funding to accomplish these necessary training activities.

2019-20

In 2019-2020, the audiovisual department will focus on the following:

- Plans to utilize the audiovisual production studio to provide three new campus audiovisual media productions. Also, the department will continue to assist with the design integration for analog-to-digital upgrades as needed.
- Continue working with campus departments to facilitate the integration of BYOD AV technology. By the end of the year, the AV Department aims to have 40% of the campus classrooms BYOD integrated.
- Continue to provide faculty and administrative assistance with the integration of new digital signage and digital signage refreshes.
- Attend conferences, seminars, webinars and trainings for certifications and professional development. AV will request funding to accomplish these necessary training activities.
- Plans to implement E-Learning training modules for new incoming faculty. The focus of the modules will be to provide digital interactive training on classroom AV components such as operation of the AV lectern, document camera, and Smart Board. The modules will also aim to save staffing resources while simultaneously providing new faculty with a comprehensive understanding of the pedagogical benefits and uses of classroom AV equipment. The Department's goal is to have at least 1 new training module created.

Instructional Computing Support (ICS)

2016 −17

In 2016 ICS plans to begin production deployment of thin-client technology in selected open-labs, including the Library and the ILC. Current year IELM funds will be used to purchase additional licenses and hardware needed for scale out, and provide for increased capacity and reliability in the back-end.

ICS will continue to advocate for additional staff. Although thin-client is, in large part, driven by a desire to maintain a low headcount by increasing the ability to manage more aspects of campus technology centrally, this does not equate to ICS having adequate staffing. The campus is rapidly moving to the end-of-life for Windows 7, and beginning to see signs of age many of the systems purchased with prop S & N funds. Given the past level of growth, and as the College continues to grow, additional staff is needed to handle the physical workload in a timely manner and manage the various complex technologies being used.

New infrastructure and software to install and configure in 2016 will include primarily upgrades to existing equipment. Major items a Dell Equallogic SAN to upgrade our server storage, and provide better fault tolerance. A second SAN may be needed, and will be purchased from round two if necessary. An additional Nutanix node and a series of 10Gb switches will increase performance and reliability in the VDI infrastructure. ICS will migrate from Symantec/tape based backup to Veeam to better automate & protect the existing virtual infrastructure.

Aside from infrastructure projects, between $60,000 and $150,000 in new computers, printers and laptops will be purchased, as well as a rewiring of room I-127, which will clean up cabling and allow network equipment to be removed from the room and placed in the telecom room where it belongs. A large block of SSD drives is also being purchased, to be used to upgrade older equipment. Replacing an old mechanical hard-drive with a new, fast SSD may improve system performance significantly, and extend equipment life span.

In 2016, it is likely that at least some instructional systems will need to be upgraded to Windows 10. ICS is purchasing a number of SSD drives in preparation for upgrading systems as necessary to improve performance.

It should be noted that in April, 2016, the ICS Department Network Specialist accepted a new position as Miramar's ACS department Enterprise Network Specialist. The campus is seeking to reclassify the Network Specialist Position to a high level, given the current nature of duties for the position. As a result, it is expected that filling this position will take an extended period of time. This will delay some projects, such as thin-client and rolling out SCCM (Microsoft System Center Configuration Manager).

In late 2016, ICS ordered 132 (108 desktop, 24 laptop) new computer system to replace aging systems, as well as several replacement printers. These will be replaced as time/staffing allows through the Summer and Fall semesters.

There was $336,052 available in the 2015-2016 Fiscal Year for ICS Technology Refresh.

2017 −18

In 2017, ICS will proceed with normal system upgrades, IELM Technology Refresh expenditures, and further expansion of the thin-client project. As current systems continue to age on campus, thin-client will be leveraged to extend systems useful life. ICS will review and build out the needed Microsoft deployment systems to support Windows 10. ICS will review Veeam (the backup solutionto be implemented in 2016) suitability. Some level of integration with administrative computing should be

considered this year, such as utilizing the thin-client infrastructure to provide more manageable, scalable access to current software to administrative end-users.

The Miramar College faculty web server is very old and needs to be retired. Existing faculty web pages must be either updated to a new platform, retired, or significant effort put forth to maintain a legacy system to support old faculty web-sites.

It is projected that there will be $469,000, available for technology refresh for the 2016-2017 fiscal year.

2018-19

In 2018, ICS will likely need to expand our VDI infrastructure to support the expanded client base. At this time, consideration may be given to consolidating the virtual infrastructure to a single hypervisor platform (currently, either ESXi or Hyper-V) to ease management.

The majority of existing systems on the campus may be out of warranty at this time. Two to four ICS servers will need replacing. Replacements should be made in line with the strategy of consolidating the virtualization platforms if funding allows.

It is projected there will be $160,000 for the ICS Technology Refresh in the 2017-2018 Fiscal Year.

2019-20

ICS should be virtualized on a single platform, such as VMWare ESXi, Microsoft's Hyper-V or Acronis. Each platform is significantly different to manage, and the management tools are more or less mature depending on the platform. As of 2016-2017, VMWare ESXi appears to be the most supported, most mature platform, as well as the platform ICS has the most experience with.

It is projected there will be $160,000 for the ICS Technology Refresh in the 2017-2018 Fiscal Year.

SDCCD Office of Information Technology (SDCCDOIT)

Please see District Technology Master Plan 2016-18 for details

Web Services

2016-17

In 2016, the department, together with Instructional Computing Support and Institutional Research, began the planning and discovery phase of this redesign. We have been meeting with a representative population from all website stakeholders: administrators, faculty, students, and classified staff. These discussions are providing the department with valuable feedback regarding the current website, and an indication of stakeholder needs and wants for future incarnations.

Following the discovery phase, the department will begin the development phase. This will involve the creation of 1–3 prototype designs, based largely on information gathered from stakeholders. With input from key people on campus, a final candidate design will be chosen over the summer. Fine tuning should begin in early Fall.

The department has received a considerable grant to improve the website's accessibility, both physical and cultural. Once development is under way, this should be revisited and a list of candidate consultants generated. In the meantime, Drupal tools for language accessibility are available at no cost.

As the redesign continues, graphics support will continue to be of paramount importance. Professional photography is probably the thing most needed to give the website the look and feel requested by both students and college administrators.

Rollout of the new campus website is scheduled for the beginning of the Spring semester, 2017. With this in mind, it would be most helpful to bring in outside consulting for the development phase of the project. This would help us to avoid common problems inherent in both Drupal and all content management system (CMS) upgrades, and to apply best practices.

2017-18

The initial rollout of the updated website is scheduled for Spring of 2017. It is likely that many pages that are fairly "deep" in the site will still need to be converted over, but all top tier content will be converted. A great deal of work remains in building a mobile friendly photo library; this will likely occupy a good deal of time following rollout. In addition, any website redesign, particularly when new software is involved, means ongoing testing and detection of bugs. Some unexpected behaviors are inevitable, and will be dealt with as they arise. Training/retraining of faculty and staff in the updating of content will be ongoing.

Following rollout of the new site, Web staff must also turn their attention to Miramar's mobile app. The current app is unreliable and underused. We will be looking at two options: Development of a new app, or folding the app's functionality into the newly-responsive website.

2018-19

It is expected that this year will be spend with minor refresh (e.g., update the "look", keep the site "fresh" and dynamic), along with initial planning for the next major upgrade. Work on the chosen mobile app solution should be underway at this time.

2019-20

It is expected that this would be a "major refresh" year. Not only will the website's appearance be overhauled; the next Drupal version should be available. Web staff will be evaluating this to determine its stability and appropriateness for the 2019-20 redesign.

Appendix

Appendix A: Resources and References

Accreditation Technology Standards

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.

III.C.2

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.

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.

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.

III.C.5

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

Appendix B: IELM Technology Spending

IELM Projections for upcoming years[1]:

BRDS - IELM Allocation	1637									
Accelerated Conservative - Consistant Funding For All										
			2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	
Reserve			96,257	0	0	0	0	0	0	
IELM			50,131	400,000	420,000	586,666	200,000 *	200,000 *	200,000 *
Total			146,388	400,000	420,000	586,666	200,000	200,000	200,000	
Reserve		0.00%	0	0	0	0	0	0	0	
Technology Resources		80.00%	117,110	320,000	336,000	469,333	160,000	160,000	160,000	
Library Resources		20.00%	29,278	80,000	84,000	117,333	40,000	40,000	40,000	
Total		100.00%	146,388	400,000	420,000	586,666	200,000	200,000	200,000	

* Estimated State Allocation

As of September, 2016, this is the *preliminary* IELM technology spending plan for 2016-2017 FY.

Item	Cost		Qty	Ext	
Computer workstations	$	850.00	294	$	249,900.00
Server Replacements	$	17,500.00	3	$	52,500.00
VMWare upgrade	$	8,000.00	8	$	64,000.00
Laptops	$	1,400.00	50	$	70,000.00
Printers	$	1,400.00	10	$	14,000.00
Nutanix SW Maintenance	$	2,386.67	8	$	19,093.33
				$	-
				$	-
				$	-
				$	-

Total IELM Expenditure:	$	469,493.33
Total IELM Funds:	$	469,000.00
Balance:	$	**(493.33)**

Please note, this plan is very preliminary and subject to change.

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[1] These are estimates based on past data trends. Contingent upon actual state funding and technology trends.

ICS Recurring Costs

Item	Quantity	Cost	Total	
Sassafras	1460	$ 2.30	$ 3,358.00	
Microsoft Dreamspark	1	$ 320.00	$ 320.00	
Nuance Paperport Pro	1	$ 96.00	$ 96.00	
Safaribooks online	1	$ 421.00	$ 421.00	
VMWare VSphere Enterprise 8-Core	8	$ 356.00	$ 2,848.00	
VMware VCenter Server Standard	1	$ 619.00	$ 619.00	
vWorkspace Premier + Enterprise	400	$ 22.50	$ 9,000.00	Renewal cost per license
Equallogic CV8M9Z1	4	$ 944.00	$ 3,776.00	
Nutanix	4	$ 2,396.67	$ 9,586.67	
HP DL380G74	4	$ 800.00	$ 3,200.00	
Veeam Maintenance	8	$ 300.00	$ 2,400.00	Complete estimate
			$ -	
			$ 35,624.67	

Appendix C: Technology Plan Rubric for Ranking RFF's

This rubric illustrates the general process by which the Technology Committee and support departments will review and rank funding requests. Budget and Resource Development utilizes its own rubrics which are not repeated here. For instance, Safety or Certification issues are dealt with at BRDS.

	High	Medium	Low	Should Fund	Should Not Fund
Scope of impact					
Can be funded/provided through other means?					
Critical in nature?					
Discussed in Program Review					
Feasibility				n/a	n/a

	Description
Scope of impact	Does this item impact or benefit the entire campus, or a portion?
Can be funded/provided through other means?	Can other sources of funds be used? Can the need be handled by existing equipment (such as roll-down) or resources?
Critical in nature?	Are there repercussions for not funding this that are significant?
Discussed in Program Review	Is the request discussed in a program review?
Feasibility	Is it likely to succeed or fail based upon realistic staffing/funding expectation? "Should/Should Not" fund is not an appropriate score for this item.