

MIRACOSTA COLLEGE TECHNOLOGY PLAN



2015-2018

Approved by Budget and Planning Committee, 03/06/2015
Approved by Administrative Council, 03/19/2015

Contents

MiraCosta Community College District Mission Statement	5
Institutional Goal I.	5
Institutional Goal II.	5
Institutional Goal III.	5
Institutional Goal IV.	5
Institutional Goal V.	5
Introduction	6
Technology Vision	6
Technology Governance	6
Technology Advisory Committee (TAC).....	6
MiraCosta Online Educators (MOE)	6
Budget and Planning Committee (BPC).....	6
Institutional Program Review Committee (IPRC)	7
Technology Planning Process	7
Overview.....	7
Technology Guiding Principles.....	8
Technology Environmental Scan.....	9
Strategic Direction and Focus	11
Student Success and Support	12
Analytics.....	12
Mobile and Online	13
Reliable and Secure Technology and Infrastructure	13
Core Technologies and Services	14
Online Education	14
Training	15
Disaster Backup and Recovery	15
Equipment Replacement Cycle.....	16
Technology Enhanced Classrooms	16
Information and Data Security	16

Known Issues and Requirements	16
Student Support	17
Facilities Infrastructure Planning	17
Information Technology Staffing	18
Enterprise Resource Planning System	19
Human Resources Talent Management System.....	19
Library Systems	19
Equipment Replacement	20
Conclusion.....	20
Acknowledgements.....	21
Appendix A: Technology Environmental Scan Survey Results.....	23
Appendix B: Equipment Replacement Budget.....	25
Current technology standards	25
Appendix C: Equipment Inventory as of Fall 2014.....	26
Appendix D: Equipment Not Currently in the District Replacement Cycle.....	27
Appendix E: Information Technology Action Plan 2015-2018	29

MiraCosta Community College District Mission Statement

“The MiraCosta Community College District mission is to provide superior educational opportunities and student-support services to a diverse population of learners with a focus on their success. MiraCosta offers associate degrees, university-transfer courses, career-and-technical education, certificate programs, basic-skills education, and lifelong-learning opportunities that strengthen the economic, cultural, social, and educational well-being of the communities it serves.” (Approved by the Board of Trustees February 19, 2014)

Institutional Goal I.

MiraCosta Community College District will become a vanguard educational institution committed to innovation and researched best practices, broad access to higher education, and environmental sustainability.

Institutional Goal II.

MiraCosta Community College District will become the institution where each student has a high probability of achieving academic success.

Institutional Goal III.

MiraCosta Community College District will institutionalize effective planning processes through the systematic use of data to make decisions.

Institutional Goal IV.

MiraCosta Community College District will demonstrate high standards of stewardship and fiscal prudence.

Institutional Goal V.

MiraCosta Community College District will be a conscientious community partner.

Introduction

Information technology in the 21st century has become the unseen yet strategic underpinning for any organization. The use of technology in education is supporting and changing how faculty teach, students learn, and staff and administrators work. Information technology does not simply function as a service or utility; it also advances teaching, learning, and community service.

Technology Vision

MiraCosta is committed to deploying and sustaining technology initiatives that support student success, teaching and learning, student services, and administrative functions of the district.

Technology Governance

Technology Advisory Committee (TAC)

As an advisory committee to the vice president of Instructional Services that has college-wide representation, TAC focuses on ensuring the district makes the best possible recommendations in advancing the use of technology to meet the district's mission, vision, and goals. The committee also ensures that changes, goals, and planning are done in a coordinated and collaborative fashion. In addition to advising the district on policy, usage, and standards, TAC also revises and updates the MiraCosta College Technology Plan with program-review approved initiatives in support of the district's strategic goals and objectives.

MiraCosta Online Educators (MOE)

MOE is a standing committee of the Academic Senate whose mission is to provide advice and counsel to the senate and college community regarding online education. MOE's focus is to fulfill the mission expressed in the MiraCosta College Online Education Plan: embracing student-centered, engaging, and accessible online education that meets student needs, enhances the learning experience, and broadens access to superior educational opportunities and support services.

Budget and Planning Committee (BPC)

BPC is responsible for formulating and recommending to the appropriate councils policies and procedures related to institutional, strategic, and integrated planning, accreditation, grants and gifts, and budget management and preparation. BPC is also responsible for recommending tentative and final budgets, strategic and master plans, grant proposals, and resource allocation processes to the appropriate council(s) or to the vice president of Business and Administrative Services.

Institutional Program Review Committee (IPRC)

IPRC is responsible for formulating and recommending to the appropriate councils policies and procedures related to the program review process and its associated standards in cooperation with other governance committees (as required). It is also responsible for ensuring incorporation of student learning outcomes assessment into academic program review and assisting in the execution of the program review process, validating program reviews, and collecting feedback to act on process improvements.

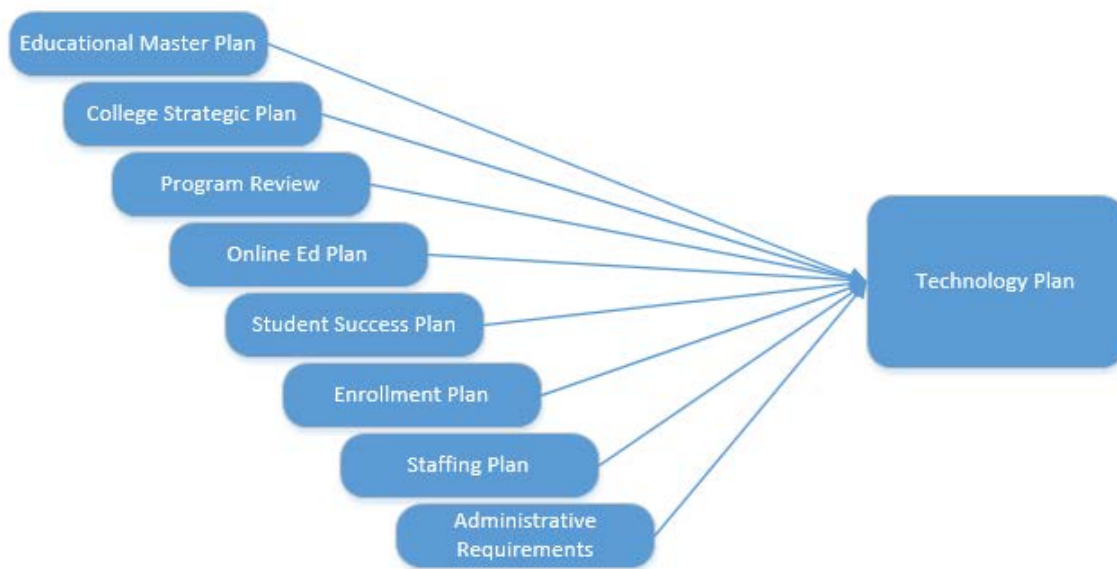
Technology Planning Process

Overview

Historically, technology plans tend to focus on a “list” of items to implement and achieve. Such a list still has its purpose, but this plan strives for a broader scope, allowing for more flexibility and the ability to adapt to the changes and breakthroughs in technology where providing opportunities for innovation is paramount. Additionally, this plan addresses only information technology software, hardware, infrastructure, and staffing. For program-specific equipment and specialized software, please refer to the departmental program review and annual budget review process for proper planning and funding.

The rapidly changing nature of technology makes planning for growth a challenging endeavor. While planning the implementation of an existing technology is relatively straightforward, planning for a technology that has not yet matured or is in an area that has not progressed or is lacking is difficult. As technology planning moved from the "catch up" phase to an innovation phase, the nature of the planning also changed to reflect this approach. Technology planning for the future relies on outlining a strategy that is flexible, adapts to evolving conditions, and is scalable.

The Technology Plan builds upon input from other district-wide plans and administrative requirements in order to plan, implement, and support technology initiatives that will support those plans’ goals, objectives, and initiatives.



Technology Guiding Principles

MiraCosta College supports innovation and creativity in the use of technology as long as minimum standards are met. While generic and flexible, these technology guidelines may not apply to all proposals; applicability depends upon the nature of the request and the depth, expanse, size, scope, and complexity of the project.

These guidelines should help the proposer and adopter of new technology or technical initiatives articulate the request, identify areas that need to be addressed, and foresee intended and unintended consequences. The proposer should use these guidelines for the initial analysis, justification, long-term planning, assessment, and evaluation of any technology proposal.

The purpose of implementing and maintaining technology standards is to ensure compliance with the following:

- Accessibility:** Accessibility is a general term used to describe the degree to which a product, service, system, or environment is usable. It can also be viewed as the "ability to access" the functionality, and possible benefit, of a system or entity. Accessibility is strongly related to the approach of universal design or inclusive design, which is about making things, at the onset, accessible to as many people as possible regardless of ability. Section 508 of the Rehabilitation Act of 1973, as amended, is a law requiring that electronic and information technology developed, procured, used, or maintained by all agencies and departments of the federal government be accessible both to federal employees with disabilities and to members of the public with disabilities. (For more detailed information on Section 508, please visit www.section508.gov and www.access-board.gov.)

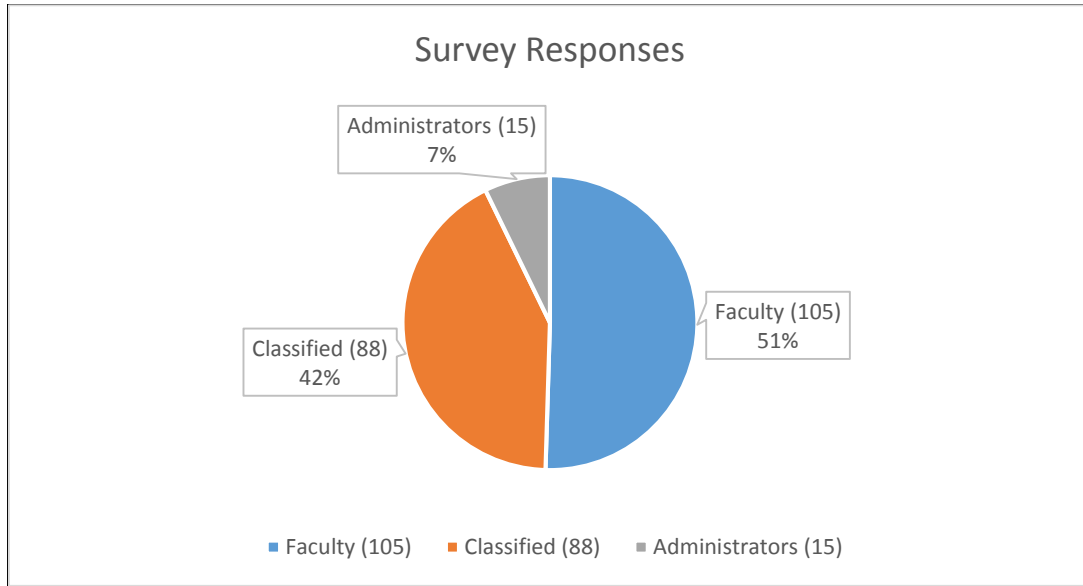
- **Compatibility:** The proposed technology will work with the existing hardware and software infrastructure while simultaneously meeting current standards.
- **Innovation:** Innovation can be defined as the act or process of inventing or introducing something new or something newly invented or a new way of doing things.
- **Return on Investment:** To the greatest extent possible, existing technology resources should be considered as solutions for new initiatives or projects before new technologies are explored. Often the technology currently in place at the college is underutilized. Developing new and innovative ways to use these existing systems increases the college's return on its initial investment and is a more responsible use of resources. Savings realized through this approach may also make resources available for those projects that do require unique technologies not already owned by the college.
- **Scalability:** Scalability is a desirable property of a system, network, or process that indicates its ability to handle growing amounts of work, accommodate heavier or lighter loads, or be readily enlarged or upgraded.
- **Security:** Authentication, authorization, administration, and audit are the fundamental functions of security, which is the college's first and foremost consideration. All other technology standards depend on security being met. In order to comply with state and federal legislation and regulation as well as to protect the confidential and sensitive information of the college's stakeholders, Academic Information Services (AIS) staff developed the [Enterprise Information Security Plan](#). The plan was approved in 2005 and is reviewed and updated annually.
- **Sustainability:** In considering technological solutions, the college must evaluate the ability to support and sustain a solution over time. How widely used is a solution and how stable is the company that provides it? Does a sufficient "ecosystem" of technical support personnel exist to debug or perform root cause analysis in pursuit of solving a problem with a product? Does the college have the appropriate number of technical support personnel required to operate and maintain the technology, or does the college have sufficient resources to add additional personnel if needed?

Technology Environmental Scan

The information technology (IT) environment is constantly changing, not only by the IT infrastructure but also increasingly by the content, uses, and users it supports. Supporting new ways of teaching and learning, improving student services, and increasing student success are among the most important aspects of IT in higher education. The college used an internal technology environmental scan to collect information about emerging trends and issues with strategic importance. The scan's results informed and guided the development of the Technology Plan.

In fall 2014, the college surveyed faculty, staff, and administrators to identify which existing technology was most valued, what areas were lacking, and future opportunities where technology could be of assistance. The survey was sent to all 1,007 district employees and

received 208 responses. In fiscal year 2015-16, a similar survey will be sent to a sample student population.



The table below identifies the survey’s top five responses. (See Appendix A: Technology Environmental Scan Survey Results for the complete results and the Portal for the survey’s [open-ended responses](#).)

Survey Question - Service Areas	High %	Medium %	Low %	No Opinion %	Rank
Continue to support the district Equipment Replacement Plan	67.20	23.70	3.40	5.80	1
Access my data and district applications from any computer from any location	66.40	22.60	8.70	2.40	2
Access data and district applications with a single sign-on (sign on once and access any system)	58.20	25.50	10.10	6.30	3
Increase Wi-Fi (wireless) speed and coverage on campus	53.10	33.30	9.20	4.40	4
Provide 24/7 Help Desk for students	43.60	38.20	9.30	8.80	5

Strategic Direction and Focus

Based on the college’s strategic plan goals, the technology survey, and the requirement to continue supporting core technologies and services, this plan identifies four strategic areas of focus: student success and support, analytics, mobile and online, and reliable and secure technology and infrastructure.

Long-Term Strategic Direction			
Student Success and Support	Analytics	Mobile and Online	Reliable and Secure Technology and Infrastructure
Support students with programs and interventions to help them be successful.	Enable the use of data capacity to proactively intervene and improve the success of MiraCosta’s students.	Employ workflow automation, document imaging, and mobile technologies to make processes, information, and services more efficient and easier to access from anywhere and at any time.	Sustain technologies and services that keep pace with the needs of the college; enable IT strategies that promote secure and effective use by MiraCosta’s constituents.
2015-2018 Overarching Initiatives			
<ul style="list-style-type: none"> • Education plans <ul style="list-style-type: none"> ○ Degree Works ○ Transfer credit • Imaging content management system • Surf upgrades and improvements • Online education 	<ul style="list-style-type: none"> • Student predictive analytics • Student learner analytics • Student success dashboards • Operational dashboards • Common data dictionary 	<ul style="list-style-type: none"> • Mobile application enhancements for Blackboard, Surf, and financials • Student Portal 	<ul style="list-style-type: none"> • Cloud services • Information security awareness • Two-factor authentication • Equipment upgrades and enhancements • Software systems upgrades, maintenance, and enhancements
FY 2015-16 Major Projects (See Appendix E for detailed plans)			
<ul style="list-style-type: none"> • Implement Degree Works Phase-1 • Implement transfer credit Phase-1 • Select imaging system 	<ul style="list-style-type: none"> • Implement data-shack • Implement data warehouse Phase-1 • Build data warehouse infrastructure 	<ul style="list-style-type: none"> • Implement mobile friendly Web design 	<ul style="list-style-type: none"> • Equipment replacement and upgrades • Software systems maintenance and upgrades

Student Success and Support

The purpose of the Student Success and Support Program (SSSP) Plan is for the college to plan and document how SSSP services will be provided to students. The goal of SSSP is to increase student access and success by providing students with core SSSP services, including orientation, assessment and placement, and counseling, advising, and other education planning services, as well as the support services necessary to assist them in achieving their educational goal.

Based on the [SB 1456](#) mandates, the college must ensure all new incoming students will matriculate prior to enrolling in courses and have an electronic comprehensive education plan completed by the second semester (or prior to completing 15 units). To ensure these mandates are met, the college will focus on enhancing and implementing systems that will allow students to matriculate and develop an electronic comprehensive education plan.

Areas of emphasis for the next three years:

- Install and implement Degree Works to ensure all new college students have an electronic comprehensive education plan.
- Transcribe transfer credit rules in PeopleSoft to assist in a faster evaluation process for students meeting prerequisites and graduation requirements.
- Identify, select, and implement an imaging system that will facilitate speedier access to student information, which will in turn facilitate counseling and the development of education plans.
- Implement electronic exchange of transcripts with partnering institutions
- Enhance and update the online orientation and advisement for new students.

Measures of success:

- By fall 2015: Degree Works implemented
- By fall 2015: Transfer credit rules transcribed in PeopleSoft
- By December 2015: Imaging content management system installed and implemented
- By spring 2015: Online orientation and advisement updated for all new students.

Analytics

Enable the use of data and predictive analytics to inform decision making and create capacity to proactively intervene and improve the success of MiraCosta's students.

Areas of emphasis for the next three years:

- Expand the use and availability of learning and student success analytics.
- Evaluate and assess the various early warning and student success systems to identify and concentrate investment on the most successful practices.
- Create a common data dictionary for student data.

- Expand organizational data and analytics capacity and data governance practices to support advanced applications of analytics, such as predictive analytics.
- Expand the availability and use of dashboards to make performance metrics and data more accessible and usable to support data-driven decision making.
- Partner with other California community colleges and the Chancellor's Office to build shared analytics solutions.

Measures of success:

- Deployment of predictive analytics to improve student success
- Deployment of learning analytics in courses and programs
- Additional dashboards available to monitor operational performance.

Mobile and Online

Employ workflow automation, document imaging, and mobile technologies to make processes, information, and services more efficient and easier to access from anywhere and at any time.

Areas of emphasis for the next three years:

- Convert more processes to paperless, online workflows; document retention management, leveraging technologies, such as an imaging content management system.
- Expand the capabilities of college's mobile applications; determine which services should be available in the Portal; migrate to and implement mobile capabilities to existing and new application systems.
- Increase the use of self-help resources, such as training videos and self-help guides, and other resources to develop the technology skills and knowledge of students, faculty, and staff members.
- Identify and spread adoption of successful practices in the use of social media and mobile communication technologies to engage constituents and personalize outreach.

Measures of success:

- Additional processes incorporating electronic workflows and forms
- Increased services available in MiraCosta's mobile application
- Increased adoption of MiraCosta's mobile application
- Improved effectiveness of personalized communications.

Reliable and Secure Technology and Infrastructure

Sustain technologies and services that keep pace with the college's needs; enable IT strategies that promote secure and effective use by MiraCosta's constituents.

Areas of emphasis for the next three years:

- Sustain the necessary availability of wireless capacity in classrooms and public and outdoor spaces.
- Continue to identify and implement technologies and practices that contribute to the college's sustainability goals by reducing the energy utilized by technology and enabling students, faculty, and staff to work in more environmentally sustainable ways.
- Expand professional development, communications, and technology deployments to respond to intensifying threats to security and privacy.
- Leverage public and private clouds to operate IT services when they offer substantial advantages to students, faculty, and staff at an acceptable cost and risk.
- Implement means to improve constituent access, awareness, and utilization of technologies.
- Invest in the core infrastructure services (networks, servers, storage) to support increasing utilization in teaching and research.

Measures of success:

- Infrastructure network, storage, and server capacity keeping pace with demand
- Successfully tested business continuity plans
- High levels of awareness of MiraCosta College technology solutions and services
- Increasing adoption of MiraCosta College technology solutions.

Core Technologies and Services

The current technology environment includes infrastructure, hardware, software, and the people who use and support these technologies. The college infrastructure is operating well, but it is at capacity and has issues due to age and to the retrofitting of technology into older buildings that were not designed to accommodate modern technology requirements.

Fiber-optic cable connects buildings and campuses while standard network protocols provide data-driven access to multiple forms of communication from multiple access points. Every building has high-speed data connections, printers, and computers for every employee who needs them. Hardware and software are on a replacement cycle, ensuring the latest versions are available in a timely manner. Data interconnectivity through the college's enterprise resource planning (PeopleSoft ERP) applications provides every department with current and shared information. Curriculum is online, and Surf allows electronic registration and other features from any Internet connection.

Online Education

Online education is integral to the fulfillment of MiraCosta's institutional goals. The college's Online Education Plan, prepared by the Academic Affairs Committee in collaboration with many

faculty, staff, and administrators, addresses plans not only for continued growth of online course offerings but also for the development of fully online degrees and certificates as well as the student services required to support student success in the online environment.

The Online Education Plan identifies critical technologies that MiraCosta must continue to provide and support. These include systems for course management (Blackboard and Moodle), screencasting (Techsmith Relay), plagiarism prevention (Turnitin), and exam question management (Respondus). The plan is available at:

<http://www.miracosta.edu/officeofthepresident/accreditation/downloads/Online%20Education%20Plan%202011.pdf>

Training

Technology training is available to faculty and staff for most hardware and software maintained by the district. Training is provided in a variety of modes, including workshops, one-on-one training, drop-in labs, multimedia tutorials, and self-help materials on the Web.

Training is available throughout the academic year with a concentration of offerings during the week prior to the first day of each semester. Technical training opportunities are offered by various colleagues through the Professional Development Program, AIS, and third-party partnerships, such as the @One Institute. Other technology training duties are distributed throughout the AIS Department based on the staff's areas of expertise.

The Teaching/Technology Innovation Center (TIC) includes PC and Macintosh computers, flatbed scanners, digital video editing facilities, and offices of the faculty technology specialist and faculty director for online education. Additionally, the TIC includes a technology-enhanced classroom (TEC) with a data projector and other media equipment. At the San Elijo hub, the Teacher Learning Center (TLC) offers PC and Macintosh computers, a flatbed scanner, and training staff available by appointment.

Disaster Backup and Recovery

AIS backs up all district production data residing at the Oceanside and San Elijo data centers with nightly differential backups and weekly full backups. Tapes are stored for a minimum of 30 days. Encrypted backup tapes rotate between the two data centers for safe storage. Data stored in the Oracle PeopleSoft system is replicated nightly from Oceanside to the San Elijo data center. Batteries and diesel motor generators provide emergency power to both data centers.

A second Internet connection at San Elijo substantially improved the district's ability to quickly resume operations in the event of a disaster and loss of the Oceanside data center. In addition, having all four district sites on a Cox Communications mesh network provides multipath connections between district sites for additional redundancy and recoverability.

Equipment Replacement Cycle

AIS coordinates the evaluation of technology growth, upgrade, and replacement. Using the program review process, the college systematically plans, acquires, maintains, upgrades, and replaces technology infrastructure to meet the needs of students and employees.

Planning and budgeting for hardware includes the cost of acquisitions, support, and replacement on a standard cycle using requests for technology acquisitions and reviewing respective replacement cycles. The Budget and Planning Committee (BPC) evaluates the requests for funding, staff impact, maintenance, sustainability, security, and policy as dictated through the program review process. (*See Appendix B: Equipment Replacement Budget and Appendix C: Equipment Inventory as of Fall 2014.*)

Technology Enhanced Classrooms

For several years, MiraCosta has made incremental progress towards retrofitting all appropriated classrooms with technology enhancements, adapting a baseline that included a computer, ceiling mounted data projector, switcher, powered ceiling speakers, screen, VCR/DVD, wireless keyboard/mouse, three data drops, wireless access point, telephone, and a storage rack.

As part of the equipment replacement cycle and in conjunction with the classroom modernization project, the college is systematically replacing and upgrading technology in the classrooms. Before classrooms are upgraded, AIS consults with the faculty members who teach in them to ensure new and enhanced technology meets their pedagogical needs within budgetary guidelines.

Information and Data Security

AIS is entrusted to ensure that data is kept safe from corruption and that access to it is appropriately controlled and monitored, thereby ensuring privacy and protection of personal data. MiraCosta uses industry best practices, specifically the concept of defense in-depth, to provide multiple layers of protection to district systems and services. The district Enterprise Information Security Plan contains a collection of policy statements and a description of the district's approach to information security. https://portal.miracosta.edu/Departments/AIS/tech_plans/SitePages/Home.aspx

Known Issues and Requirements

The current technology environment includes infrastructure, hardware, software, and the people that use and support these technologies. The college infrastructure is operating well, but it is at capacity and has issues due to age and to the retrofitting of technology into older buildings that were not designed to accommodate modern technology requirements.

Fiber-optic cable connects buildings and campuses, while standard network protocols provide data-driven access to multiple forms of communication from multiple access points. Every building has high-speed data connections, printers, and computers for every employee who needs them.

Student Support

Currently, live support for the student help desk is limited to 44.5 hours per week Monday through Friday. For fiscal year 2015-16, AIS and Online Education will examine alternatives to extend student help desk support and seek funding through the program review process.

Facilities Infrastructure Planning

Although technology is pervasive throughout the four college sites, much of it was retrofitted long after MiraCosta's now aging buildings were constructed. As a result, the college's facilities infrastructure is lacking or deficient in areas such as dedicated communications closets, air conditioning, lighting, power, ventilation, and fiber and copper pathways.

Solutions and corrections in these areas will require substantial funding made apparent and addressed by the Facilities Plan and the Comprehensive Master Plan for future consideration when funds become available.

Identified areas that are lacking and deficient include the following:

- Lacking at the Oceanside Campus
 - Dedicated communication closets
 - Redundant fiber ring interconnecting all buildings
 - Data center expansion (additional rack space), which is close to physical capacity
 - Secondary data center to host redundant servers backing up critical applications
 - Secondary and redundant Internet service provider connection.
- Deficient at the Oceanside Campus
 - Aging fiber backbone
 - Existing fiber and copper pathways at capacity.
- Lacking at the San Elijo Campus
 - Building communication closets
 - Additional server space in the data center or a new data center
 - Improved air conditioning units
 - Fire suppression
 - Redundant fiber ring interconnecting all buildings.
- Lacking at the Community Learning Center
 - Proper communication closets
 - Uninterruptible power supply and air conditioning for the server room.

Information Technology Staffing

A major challenge facing the college is providing adequate technical staffing to support the many uses of computing and technology. The goals are to enhance instructional and administrative technology support and improve the quality of technical service to students, faculty, and staff in support of learning and the college's strategic goals and objectives.

Over the past five years, MiraCosta's equipment and software have grown in numbers and complexity without a correspondent growth in support staff. AIS does not have sufficient technical staff to support and fully deploy Degree Works, a new document imaging system, transfer credit in PeopleSoft, and a business intelligence/data warehouse, all of which are required in order to comply with [SB 1456](#) mandates. Additionally, the district's effort to convert long-term temporary staff to permanent staff was tremendously under converted in Media Services. IT staffing needs include the following:

- Programmer analyst to support the Student Success and Support Program (Degree Works, transfer credits, and imaging system). Institutional Objective II.1 calls for educational planning tools, processes, and resources that are contemporary and optimize student success. Additionally, the Office of Instruction plans to use data derived from Degree Works and student educational plans to inform the development of class schedules that will meet student demands and requirements. A computer programmer is needed to support and maintain these additional systems and fully realize the goals and benefits brought by the Student Success and Support Program.
- Full-time media services aide video editor. The continual growth of multimedia use to enhance teaching and learning for on-ground and online classes has created a tremendous demand for video services. The current permanent, part-time (18 hours per week) position cannot keep up with the demand for cinematography, video production, and editing. To address this service demand, AIS should use the program review process to convert the permanent, part-time media services position to full time.
- Full-time media services aide equipment installer/tech support. All classrooms and conference rooms are equipped with a computer, projector, and screen. Current demand for instructional equipment installation, maintenance, and support outstripped existing resources. The current permanent, part-time (18 hours per week) position cannot keep up with the support demand; therefore, AIS should use the program review process to convert the permanent, part-time media services position to full time.
- Business intelligence/data warehouse reporting analyst; data modeler and ETL programmer (two roles combined); database and systems administrator (two roles combined). Institutional Goal III calls for the district to institutionalize effective planning process through the systematic use of data to make decisions. The district wishes to advance its culture of evidence by maximizing the access to and use of data. To reach

such a goal, MiraCosta must ensure that software systems used for program review, outcomes assessment, planning, and decision making are integrated and support the migration of data across systems.

The district realizes it needs a college-wide business intelligence/data warehouse with reporting and publishing capabilities that harness evidence from all areas of the college. In order to implement and provide ongoing support and maintenance, a robust and fully functional staff supporting the data warehouse environment and infrastructure must in place that will support college-wide planning, assessment, reporting, and decision making.

Enterprise Resource Planning System

MiraCosta has adopted the Oracle PeopleSoft ERP platform for human resources, student records, and finance and budget administration. The ERP system was installed in 1998-2001. AIS keeps the maintenance of patches and fixes current, but many features have been added to PeopleSoft that are “turned off” and not operational. A fit-gap analysis should take place to evaluate current business practices and how they could be improved in relation to new PeopleSoft functionality or other ERP vendors’ products and services.

Human Resources Talent Management System

The district has identified a need to be more effective and efficient in the way it administers professional development, tracks performance management, enhances the process for on-boarding functions, and integrates the recruitment processes with the aforementioned functions. Improving current systems will increase the visibility of faculty/staff alignment with institutional goals, enhance tracking and reporting against compliance training, and result in a more dynamic and effective campus environment in which to improve student success and retention.

Improving and upgrading existing systems in such a manner aligns with Institutional Goal III.1: Advance the culture of evidence by maximizing the access to and use of data; and Institutional Goal III.2: Employ strategic collaboration throughout the institution to move from evidence to action. A fit-gap analysis should take place to evaluate current business practices and assess how they could be improved in relation to PeopleAdmin functionality and the district’s ERP system.

Library Systems

The Library Department uses the SirsiDynix library management system to provide an online catalog of MiraCosta’s collection of print, media, and electronic research materials, to provide circulation management services, and to manage technical processing of print, media, and electronic resources. This system has been in place for 15 years.

The SirsiDynix system's suitability should be reviewed in the context of current library requirements and its viability compared with other new systems and platforms currently available from SirsiDynix as well as from other vendors.

Additionally, with the increased need to provide collaborative learning opportunities and environments for students, the library must provide technology-rich, enhanced learning spaces and study rooms, which may contain wall-mounted screens, networked computers, telephone conferencing, and other technology.

Equipment Replacement

The current equipment replacement budget does not reflect or account for the replacement of equipment that was purchased and deployed as part of new construction, remodeling, or site improvements. This equipment was purchased outside of the Total Cost of Ownership process and was not added to the district's technology inventory list and plant.

Consequently, funds have not been budgeted to upgrade and replace this equipment as it ages and becomes nonfunctional. At this time, individual departments must fund and replace that equipment, and the Board of Trustees has provided one time funds. (*See Appendix D: Equipment Not Currently in the District Replacement Cycle.*)

Conclusion

The MiraCosta College Technology Plan's intent is to provide a framework with two main focuses:

1. Maintain the integrity and capacity of the core infrastructure.
2. Provide the means and flexibility to introduce and use technology by fostering innovation and creativity at the edges.

For the next three years, this document will assist in planning and shaping the information technology efforts to an end that is both beneficial and functional for the district.

For many years, MiraCosta has prided itself on its effective utilization of technology in support of teaching and learning. Through annual evaluation and monitoring of this plan, the college will be able to assess and ensure that the Technology Plan continues its support and alignment with the Comprehensive Master Plan and the district's strategic goals.

In support of this plan, the district should continue prioritizing funding for the purchase and replacement of technology. The district acknowledges that computer technology has a limited life cycle and must be upgraded regularly to continue to function in a cost effective manner.

This Technology Plan should be viewed as a living document for which annual reviews are imperative to successfully meet the plan's goals and the district's technological health.

Acknowledgements

The college would like to express its sincere thanks to the members of the Technology Advisory Committee for their efforts and valuable input to this revision of the MiraCosta College Technology Plan.

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Appendix A: Technology Environmental Scan Survey Results

Quest. #	Survey Question - Service Areas	High %	Med. %	Low %	No Opinion %	Rank	Tech Plan Pillars
11	Continue to support the district equipment replacement plan	67.20	23.70	3.40	5.80	1	Equipment replacement
2	Access my data and district applications from any computer from any location	66.40	22.60	8.70	2.40	2	Mobile
12	Access data and district applications with a single sign-on (sign on once and access any system)	58.20	25.50	10.10	6.30	3	Infrastructure
4	Increase Wi-Fi (wireless) speed and coverage on campus	53.10	33.30	9.20	4.40	4	Mobile
7	Provide 24/7 Help Desk for students	43.60	38.20	9.30	8.80	5	SSSP
3	Access district applications and data via mobile apps, such as smart phones, tablets, and other mobile technology	35.90	35.40	23.30	5.30		Mobile
10	Increase information technology training and professional development opportunities	32.80	50.50	14.20	2.50		Training and support
6	Provide access to data warehouse and data analytics to support teaching and learning, decision making, and student success	31.40	41.10	12.10	15.50		Analytics

8	Provide 24/7 Help Desk for staff	29.10	44.20	23.30	3.40		Training and support
5	Assess and evaluate the district business processes to determine how well PeopleSoft ERP (Finance, Human Resources, Surf) is meeting college needs and identify opportunities to improve	25.70	38.40	24.30	11.70		Infrastructure
9	Create a self-service Help Desk for students and staff	23.70	46.40	20.30	9.70		SSSP

Appendix B: Equipment Replacement Budget

The district equipment replacement budget is administered and managed by AIS. The common industry recommendation, as per the Gartner Group, is to replace desktop computers every 3 years. MiraCosta has elected to extend the life of such equipment by an extra year therefore implementing a 4 year replacement cycle. The multimedia equipment replacement cycle varies on usage and application requirement; hence, its life cycle can go as high as 7 to 8 years. The server and network equipment replacement cycle varies from 3 to 5 years depending on type and equipment function. (See Appendix C for the current equipment inventory numbers as of fall 2014.)

Description	Cost
Faculty/Staff Desktop/Printer Upgrades	\$202,796
Telephone Equipment/Service/Maintenance & Upgrades	\$18,236
Network Hardware/Software Licenses/Servers Maintenance & Upgrades	\$448,521
Desktop Software Licenses (Computer Labs & Employees)	\$240,808
Academic Lab/Classroom Computer Replacement	\$334,986
District Wide Systems/ERP Upgrades	\$0
Desktop Maintenance	\$13,143
District Wide Shared Network Storage	\$39,134
Network Infrastructure (Wired & Wireless)	\$134,071
Laptop Replacement	\$52,931
TEC/Media/AV Replacement	\$141,471
Total Budget for FY2014-2015	\$1,626,097

Through the program review process, AIS has requested additional funds to properly augment the equipment replacement budget to include such unfunded areas.

Current technology standards

Each year AIS updates technology standards for a wide range of administrative and instructional systems and devices including desktop hardware, desktop operating systems, Office Suite applications, and technology enhanced classrooms. <http://www.miracosta.edu/instruction/ais/its/standarddesktopconfig.html>

Appendix C: Equipment Inventory as of Fall 2014

	Quantity	Replacement Cycle
Student desktop computers	1,364	4 - 4.5 years
Student laptops	205	4 - 4.5 years
Kiosks for student use	24	4 - 4.5 years
Faculty and staff desktop computers	607	4.5 - 5.5 years
Faculty and staff laptop computers	106	4.5 - 5.5 years
Shared/departmental computers	146	Obsolescence
Networked printers	190	Obsolescence
Servers		4 - 5 years
Physical	23	
Virtual (VMWare)	263	
Network storage	65 Terabytes	5 - 6 years
Network infrastructure		
Routers	11	5 - 10 years
Network switches	97	6 - 8 years
Firewalls	8	5 - 8 years
Network appliances	39	Obsolescence
Wireless access points	125	Obsolescence
Telephones	1,234	Obsolescence
Emergency broadcast outdoor speakers	88	Obsolescence
Technology enhanced classroom/rooms (projectors, computer, DVD/VHS player, media switch, screen)	214	6 - 8 years
Fiber and telephone/data wiring plant		Maintenance as needed. 25 years
Data center's UPS infrastructure, redundant HVAC, and diesel motor generators	(2) OCN & SAC	10 - 15 years

Appendix D: Equipment Not Currently in the District Replacement Cycle

Area	Equipment	Originally Installed	Last Replaced *	Cost
Biotechnology - B4000	20 laptops	FY2006-07	(8 years old)	\$ 27,500
	2 technology enhanced rooms	FY2006-07	(8 years old)	\$ 6,950
	Network equipment			\$ 5,000
Theatre (box office) - B2000	2 desktops	FY2007-08	(7 years old)	\$ 1,950
	1 technology enhanced facility	FY2007-08	(7 years old)	\$ 3,475
	1 long throw projector (booth)	FY2007-08	(7 years old)	\$ 7,000
	Network equipment			\$ 5,000
SEC Student Center Expansion - B900	2 technology enhanced facilities	FY2008-09	(6 years old)	\$ 6,950
	Network equipment			\$ 5,000
Creative Arts Replacement - B2200	17 Mac Pro	FY2008-09	FY2014-15	\$ 56,000
	Network equipment			\$15,000
Creative Arts Expansion Art - B2300	25 Mac Pro+	FY2009-10	FY2014-15	\$144,000
	2 technology enhanced facilities	FY2009-10	FY2014-15	\$ 6,950
	Network equipment			\$ 6,950
Creative Arts Expansion Music Bldg - B2400	6 Mac Pro	FY2008-09	(6 years old)	\$ 21,000
	Network equipment			\$ 5,000
SEC Laptop Lab	20 laptops	FY2006-07	FY2014-15	\$ 27,500
SEC Biology ** Laptops	15 laptops	FY2014-15		\$ 20,500
SEC Chemistry ** Laptops	15 laptops	FY2009-10	FY2014-15	\$ 20,500

⇒ * Purchased using 9511 (one time from program review funds)

⇒ ** Purchased by the department using 9511 (one time funds)

Appendix E: Information Technology Action Plan 2015-2018

Alignment of Information Technology Objectives in Support of Institutional Goals and Objectives

Institutional Goal	Institutional Objective	Technology Objective	
Institutional Goal II	MiraCosta Community College District will become the institution where each student has a high probability of achieving academic success.		
	Institutional Objective II.1	Ensure educational planning tools, processes, and resources are contemporary and optimize student success.	
		Technology Objective I	Plan: Implement Degree Works, transfer credit in PeopleSoft, and imaging content management in support of Student Success and Support Program (SSSP).
Institutional Goal III	MiraCosta Community College District will institutionalize effective planning processes through the systematic use of data to make decisions.		
	Institutional Objective III.1	Advance our culture of evidence by maximizing the access to and use of data.	
		Technology Objective II	Plan: Ensure that software systems used for program review, outcomes assessment, planning, and decision making are integrated and support the migration of data across systems.
Institutional Goal IV	MiraCosta Community College District will demonstrate high standards of stewardship and fiscal prudence.		
	Institutional Objective IV.3	Invest in and preserve assets (land and physical plant, technology, and equipment) that serve district needs.	
		Technology Objective III	Plan: Revise the Technology Plan and equipment replacement schedule in accordance with district standards. Ensure computer resources are up-to-date and meet academic requirements to sustain teaching and learning as well as district operational needs.

Information Technology Action Plans

Information Technology Objectives	Action Plan	Action Task	Responsible Party	Target Date	Progress
Technology Objective I	SSSP	Degree Works Transfer credit Imaging	Student Services and AIS	Multi-year	
Technology Objective II	Data warehouse	Data-shack Dashboard MIS	Institutional Effectiveness and AIS	Multi-year	
Technology Objective III	III.1 Desktop equipment upgrade	III.1.1 Replace student computers in labs III.1.2 Replace faculty/staff computers III.1.3 Replace laptop computers	AIS Instructional Services Coordinator	FY2015-16	
	III.2 Network infrastructure upgrade and support	III.2.1 Replace network storage III.2.2 Replace network hubs and switches III.2.3 Upgrade/applied software maintenance to server operating systems	AIS Technology Services Coordinator	FY2015-16	
	III.3 Application software upgrade and support	III.3.1 Upgrade software maintenance to PeopleSoft ERP III.3.2 Upgrade to PeopleSoft Financials 9.1	AIS Technology Services Coordinator	FY2015-16	

		<p>III.3.3 Upgrade and maintain all Enterprise computer applications software to supported releases</p> <p>III.3.4 Upgrade desktop software</p>	AIS Instructional Services Coordinator		
	III.4 Media services upgrade and support	<p>III.4.1 Update instruction technology classroom standards</p> <p>III.4.2 Replace aging A/V equipment</p>	AIS Instructional Technology Coordinator	FY2015-16	