Merced Community College District

Technology Master Plan 2019-2024

June 11, 2019

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Vision for Technology

"Empowering educational experiences" are central to Merced College's vision and are provided most effectively with the support of technology. In today's world, technology is critical to both access and the success of each student at Merced College. The following statements represent the vision for technology at Merced College and provide the foundation for the *Merced College Technology Master Plan 2019-2024*.

- ❖ Merced College strives to be innovative, forward-thinking, and an early adopter of meaningful technology in support of its mission.
- ❖ Technology is the vehicle by which Merced College represents itself to students, prospective students, educational and business partners, and the community at large.
- ❖ Technology supports a safe and secure environment for all who work and participate in the distributed educational environment of Merced College and its network of campus sites and delivery modes.
- ❖ Technology at Merced College is student-focused, supporting each student's access, progression, and achievement of their educational goals.
- ❖ Technology at Merced College helps streamline and augment processes for the effective and efficient use of its precious human, fiscal, and physical resources.
- ❖ Technology considerations are an inclusive, integral part of all planning at Merced College; the Technology Master Plan is driven by, and integrated with, the District's Educational Master Plan and Strategic Implementation Plan.

Executive Summary

The *Merced College Technology Master Plan 2019-2024* was developed over a five-month period in the Winter and Spring of 2019. The Technology Committee, which functions as an operational committee regularly, assumed the role of Technology Master Planning Committee (TMPC), which it does each five years, to provide oversight for the project. The TMPC served as a steering committee, ensuring broad-based input from Merced College stakeholders, and guiding the project to fruition.

This document provides a summary of the process used to develop the Technology Master Plan (TMP), how it fits into the integrated planning processes of the District, its requisite components, and a set of five-year priorities in alignment with the District's Educational Master Plan (EMP) goals and objectives, and its complementary Strategic Implementation Plan (SIP)'s action plans.

Merced College supports the use of the latest technology in all aspects of district operations. This includes administrative, student support services, instruction, and its distributed educational program at the Merced and Los Banos campuses, multiple off-sites, and through distance education delivery modes. Every student and employee at Merced College is both affected and supported by technology. These connections are inherent to the District's Vision for Technology and discussed throughout the TMP.

This TMP provides information on board policies, administrative procedures, operational processes, facilities implications, and standards for technology. Purchasing guidelines and the accessibility and security of technology in the District is also covered. Additionally, a focus on professional development and training, and a discussion of futures thinking is also presented.

The TMPC's top priorities for the five-year plan, listed below, were derived from many hours of data analysis and qualitative data collection through "listening sessions" with district stakeholders. The five-year plan priorities, with additional detail and cited linkages to the SIP, are presented later in the plan. Each of the seven key priorities supports student access and success, as well as institutional effectiveness, and advances Merced College toward its vision to provide transformative and empowering educational experiences to meet student and community needs.

❖ Priority #1: Accessibility and Purchasing
Ensure accessibility for all staff and students; include 508 compliance and the total cost of ownership (TCO) in all technology acquisitions. Section 508 of the Rehabilitation Act of 1973 requires federal agencies to provide software and website accessibility to people with disabilities.

❖ Priority #2: Data Security, Management and Reporting
Strengthen cyber, data, and technology security; strengthen data management and reporting.

❖ Priority #3: Systematic Planning
Exercise a systematic approach to planning for technology needs, especially classroom software.

❖ Priority #4: System Implementations and Canvas
Automate and streamline system implementations and functions. Transition all remaining faculty to Canvas to better support student success.

❖ Priority #5: Wi-Fi Upgrades
Upgrade and ensure consistent accessibility to Wi-Fi throughout the District, both indoors and outside on campus.

❖ Priority #6: Training and Support
Support and fund professional development, training, and technical support for effective and efficient use of new and existing technology. This includes but is not limited to onboarding students and staff, and maximizing the use of the new Educational Technology Training Center (ETTC).

❖ Priority #7: Communications
Create website, portal, and mobile access that is more user-friendly for students, staff,

and the public.

Background and Introduction

This Technology Master Plan (TMP) was developed by the Technology Master Planning Committee. The Committee is comprised of 17 members including faculty, staff, administrators, and students. The process of developing the plan was collaborative, broad-based, and transparent. Listening sessions were held with stakeholder groups from across the District. Drafts of the plan were made available to the campus community for feedback. The final draft of the plan was reviewed and approved by the President and adopted by the Board of Trustees.

Merced College is committed to the efficient acquisition and deployment of dynamic, up-to-date technology systems. To achieve this goal, the plan lays out guidelines that are either currently in place or that need to be developed. Integration was also front and center as this plan was developed. From the start, the priorities for technology were tied directly to the goals identified in the Educational Master Plan and to the objectives and tasks described in the Strategic Implementation Plan (SIP). This integrated approach will be used for the enhancement and development of other plans for the District, including: Staffing, Facilities, Resource Allocation, etc.

Technology planning at the district is affected by many current trends. The Plan was conceived to be a flexible, living document as technology changes in the future. Today's students and faculty have a variety of personal computing devices with vast amounts of data stored in the cloud. This requires dependable wireless Internet connectivity throughout the District. Shared infrastructure and communication between the Merced and Los Banos campuses require dependable and easy-to-use communications systems. Some technologies require integration with physical facilities (e.g., projectors and screens, wired and wireless connectivity, safety and security systems, etc.). Many "smart device" technologies and other devices included in the Internet of Things (IoT) create security vulnerabilities for the institution when their purchase and placement are not well considered. With innovation comes an increasing need for user support and training, as well as maintenance of systems technology. Through the increasing complexity of technology infrastructure and systems comes the need for more specialized training for ITS staff.

The stakeholder groups that developed this Plan attempted to address current and projected technology needs. The fast-changing nature of technology makes this challenging. Therefore, along with the District's Strategic Implementation Plan (SIP), this Technology Master Plan should be reviewed and updated on an annual basis. The Technology Committee (TC) will be charged with monitoring the progress of the TMP on an annual basis, and the Educational Master Planning Committee (EMPC) will review progress on the TMP priorities, along with those of other planning efforts, through integrated planning dialogue sessions held quarterly throughout the five years.

College Mission, Vision, Core Values, and Motto

The District's mission, vision, and core values are at the center of all the District does and all of its planning efforts. As with the groups that developed the Educational Master Plan (EMP), participants in the process of creating this plan were encouraged to reflect on the mission, vision, and values periodically.

Vision

Merced College will provide transformative and empowering educational experiences to meet student and community needs.

Mission

Growing our community through education and workforce training:

- lifelong learning
- basic skills
- career technical education
- transfer
- degree/certificate programs

Ensuring student success through equitable access, continuous quality improvement, institutional effectiveness, and student achievement.

Core Values

Student Success

We focus on student access and success.

Supportive Environment

We promote an atmosphere of trust where communication and teamwork cultivate a rich environment for teaching and learning.

Proactive

We utilize agility, innovation, and responsible risk-taking to create our preferred future.

Partnering

We actively engage with the community and community partners to respond to cultural, educational, economic, and technological needs.

Diversity

We embrace diversity and equity as community strengths and celebrate these qualities in our institution.

Self-Reflection

We strive for continuous improvement based on data-driven self-reflection, objective assessment, and dialogue.

Motto

"Students are our focus and we are known by their success"

Integrated Planning and the Technology Master Plan (TMP)

Connection to the Educational Master Plan and Strategic Implementation Plan

The Educational Master Plan and Strategic Implementation Plan can be found at this link:

http://www.mccd.edu/about/committees/emp/index.html

Merced College has adopted an integrated approach to its planning efforts to support institutional effectiveness and continuous improvement in the fulfillment of its mission. The planning cycle is a five-year cycle, which commences with an overarching Educational Master Plan (EMP). The EMP identifies a set of five-year goals and objectives. These goals and objectives are operationalized through a complimentary Strategic Implementation Plan (SIP), which contains action plans, measurable outcomes, and a timeline for the plan of work identified. The TMP, similar to the Facilities Master Plan (FMP), is derived from and integrated with the EMP and SIP. The integration of these plans is depicted below.

Connection to Program Review and Other Planning Efforts

Essential to the integrated EMP, SIP, FMP, and TMP planning process are the results of program reviews in instruction, student services, and administrative services. Both technology needs and the envisioning of technology advances for the future should be

included in such program review processes and provided as input to the development of these plans.

Connection to ACCJC Accreditation

Consideration for technology needs is an expectation of ACCJC in providing high-quality educational programs and services for students. Evidence of integrated planning, which includes technology planning, is an expectation of an accredited institution and is an area of review during the reaffirmation approval process.

Review Cycle

Similar to other planning efforts at Merced College, the TMP is reviewed regularly. The Technology Committee reviews progress on TMP priorities annually. Review of progress on technology priorities is also conducted by goal and objective leaders from the respective EMP and SIP plans. Additionally, the Educational Master Planning Committee (EMPC) reviews progress on all integrated planning efforts at its quarterly meetings.

Technology Support for Integrated Planning and Decision Making

Important to any Technology Master Plan is the need for timely data and the integration of such for integrated planning and meaningful decision making. Technology support for the District's Institutional Effectiveness and Integrated Planning Model is of critical importance in order to align institutional assessment and program review processes with planning, resource allocation, and continuous improvement cycles. Also critical is technology support and system integration for Enrollment Management. This process is key to developing Guided Pathways, master scheduling, room scheduling, faculty assignments, workloads, and productivity, etc.

Technology and District Organizational Structure

Role and Structure of the Information Technology Services (ITS) Department

The ITS Department provides support to both staff and students. The department includes support for administrative and student services, as well as for instruction and the classroom setting, and supports the newly developed Educational Technology Training Center (ETTC). It is important to note that while the ITS Department provides support for hardware, software, and other technology-related applications, solutions, and issues, it relies on the expertise of individuals in their departments for the effective use of systems and applications. Whenever possible, the process for deciding on the acquisition of new technology should include the consideration for system-wide integration across District departments.

The Department conducts installations, integration, training, and technical support, but does not carry expertise on the content and use of all acquisitions. Acquisition of department-

specific and discipline-specific software/applications by users should be done mindful of the follow-up technical support and training that will be required over time. ITS also serves as a resource to college departments to explore, compare and contrast possible technology solutions, examine the "total cost of ownership" of technology acquisitions, and develop awareness of legal issues, including accessibility and compliance issues.

View the structure and staffing of the ITS Department at this link:

http://www.mccd.edu/offices/its/index.html.

Role of the Technology Committee

The Technology Committee (TC) functions as an operational committee throughout the year. Every five years it assumes the role of "Technology Master Planning Committee" (TMPC), providing oversight and steering the development of the five-year Technology Master Plan. The TC is comprised of 17 members, including faculty, management, classified staff, and students. The full purpose statement of the Technology Committee can be viewed in Appendix A.

Board Policies (BPs) and Administrative Procedures (APs)

District Board Policies and Administrative Procedures can be found in the District's Board Docs at this link: https://www.boarddocs.com/ca/mccd/Board.nsf/Public.

It is critical that the District's Board Policies (BPs) and Administrative Procedures (APs) are reviewed and updated at least every five years, and more frequently on an as-needed basis. In the area of technology, updates may be needed more frequently. Technology advances are ongoing and affect every area of the District. Administrative Services, Instruction, and Student Services are all impacted by technology. Nowhere is this more evident than in examining Board Policies and Administrative Procedures that contain language referring to technology.   At a minimum, the following BPs (with their respective APs) and APs (without referenced BPs) should be reviewed and updated every five years when the Technology Master Plan is updated. Dates for the last review of the BPs/APs listed below are provided in parentheses following each one. Those with an asterisk have not been reviewed/updated in over five years and should be reviewed concurrently with this new *Merced College Technology Master Plan for 2019-2024.*

- BP 3710   Intellectual Property and Copyright (2017)
- BP 3720   Acceptable Use Policy (2004)*
- BP 3721   Computer Technology Maintenance (2017)
- BP 3723   Information Security and Privacy (2010)*
- BP 3910   Use of UASs (Drones) on District Grounds (2018)
- BP 4040   Library and Other Instructional Support (2016)
  - AP 4105 Distance Education (2013)*
- BP 5040   Student Records and Directory Information (2010)*
  - AP 5045 Student Records - Challenging Content and Access Log (2010)*

- BP 5140   Disabled Student Programs & Services (2016)
  - AP 5540   Academic Honesty Procedure (2002)*
- BP 6330   Purchasing (2017)
- BP 6340   Bids and Contracts (2017)
- BP 6700   Civic Center and Facilities Use (2017)

Grants

It was identified in listening sessions and by the taskforce that grants have been grossly underutilized by the District in general, and when they are used, the planning for the use and support of technology is inadequate. The district will establish a proactive process for pursuing, writing, and tracking grants, which include Information Technology components. The burden for the timely purchase and replacement of District technology could be significantly reduced by the intentional pursuit of grants. The writing process will need to include support for the technology during the life of the grant in terms of personnel as well as to indicate how the district will manage the ongoing cost of ownership in the support and upgrade of the technology after the grant expires.

Operational Processes

In the listening sessions, many classified professional staff, faculty, and administrators commented on how many operational processes are quite inefficient. There are many processes that still require paper forms or signatures. Some data must be manually entered into more than one software system. The TMP includes initiatives aimed at increasing operational efficiencies. This will be done by automating manual processes, reducing paper copies of forms, utilizing digital signatures vs. wet signatures, and providing appropriate training for all staff members. The District will develop paper-free processes with a workflow tracking system.

The process of resource allocation for technology will also be streamlined. Technology needs should be identified in the Program Reviews. Prioritization should be done looking at the District as a whole. At times the needs of several departments can be met with an individual technology purchase that may be more expensive, but costs less when it meets several departments' needs. Additionally, software applications purchased with the District's enterprise system in mind will work more smoothly, and the total cost of ownership may be less due to reduced technical support costs. Looking at the District as a whole may also result in the ability to advance several departments and/or campus sites at once when the same technology is applied more broadly. This Plan seeks to establish processes and procedures to create a more holistic approach to new technology solutions. The goal is to ensure that new and existing systems are inter-compatible, necessary, efficient, cost-effective, and meet business and pedagogical needs.

Compliance Checks

Facilitating personal financial transactions involves Payment Card Industry (PCI) regulations. The District is committed to remaining in compliance with all laws and regulations, and reviews, adjusts and adopts Board Policies (BPs) and Administrative Procedures (APs) as needed. A list of those BPs and APs most applicable to technology and this Technology Master Plan are listed above (see Board Policies and Administrative Procedures Section).

Technology Standards

Establishing standards for the purchase and use of District technology helps to ensure a high level of support and network compatibility. The technology identified in the standards will be fully supported by the ITS department. Additionally, the application of technology standards reduces security risks and decreases overall support calls. The District will maintain a list of standards for the purchase of desktop and mobile computing solutions, to include printers. The District will maintain a list of software currently supported and licensed by the District. Technology standards will be documented and applied in the purchase and installation of server, storage, and network infrastructure. Technology standards will be documented and applied in the purchase of instructional technology. Technology requirements and standards to support new and remodeled facilities will be applied, to include data cabling, power, cooling, and equipment racking.

Purchasing Guidelines

One of the biggest challenges facing any community college is the purchase of new technology solutions, including hardware and software. With multiple funding sources, including grants, categorical funds, and departmental budgets, technology is often purchased by a department, or even by an individual. Nearly all systems require some support from ITS.

There is a myriad of problems resulting from this disjointed system of purchasing, including:

- Multiple systems performing the same or similar functions
- Excessive overall spending
- ITS is asked to support a growing number of systems - each requiring new training
- New systems may not be able to be integrated with existing systems, creating more redundancy of data entry
- Some systems open the District to data vulnerabilities

To avoid these problems, the District should develop purchasing guidelines for all staff to follow. There will also need to be a long-term commitment to educating staff about these new guidelines. The education campaign should not just convey new rules; it should also explain why, as an institution, they make sense. Procurement decisions must consider the

long-term costs. In some cases, it will be better to spend more up-front to reduce long-term savings in technology support. These technology purchasing guidelines should include the following process:

- Define the problem
- Identify the desired solution
- See if the District already has a system that can solve the problem
- Research what systems are available to solve the problem
- Determine what other uses the system might have
- Investigate how it can and should integrate with other systems
- Determine how users specify their requests
- Determine who does research on the technology options
- Determine how and when to consult with ITS

Ideally, software purchases should consider efficiency, applicability, integration, replacement, and service needs - not just cost and a single purpose use. The whole District must be included and invested in decision-making about systems, not just the Information Technology Services Department.

Integration with Existing College Systems

When adding a new piece of hardware or software, every attempt should be made to ensure that it integrates with existing District systems.

Systems Implementation

In the listening sessions, faculty and staff expressed frustration with some of the major system implementations over the past couple of years. However, they also cited this has improved recently, as in the case of the implementation of Canvas, which went smoothly. Users suggested using the Canvas implementation process as a model for future system and application implementation processes. The District will develop and adopt some key principles to ensure new systems are implemented to maximize the benefits of any new software system.

District stakeholders had a variety of suggestions to be included in these principles:

- Optimize and use existing systems first and integrate them
- Avoid buying only some modules of a software system to save money
- Develop a "hub of ownership" and provide adequate resources when implementing a new system
- Provide training and cross-training so more than one person is an expert in the new system - avoid a siloed process
- Ensure there is one full-time, dedicated person to be the expert for the roll-out of a new system - or, bring in an outside team of experts for a year or so to train users.

- Have a plan for developing implementation teams and transition plans before and after purchasing new systems
- Provide resources and funding for training and technical support
- Reach out to other colleges for help implementing systems
- Ensure users and ITS work together for implementation
- Implement a well-defined data validation process as part of all systems implementations
- Show potential users the usefulness and benefits of the new system for themselves, students and their colleagues

Key Functions to Be Automated / Streamlined

One area of need expressed in many of the listening sessions was the need to automate and streamline District processes and make them more user-friendly. This need was expressed by both students and staff at all levels of the organization.

Automating Manual Processes

A variety of manual processes still exist in the District. Staff expressed the need for automation as an important asset to improve the efficiency of operations, reduce staff time and errors from duplicative inputting, and assist with decision making. Once purchased, an efficient "roll-out" plan is important for installation, a smooth transition, and the staff training needed for technology to be used effectively. The TMPC conducted an exercise to prioritize manual processes cited in listening sessions as areas needing automation. A summary of processes recommended for automation over the next three years can be found in Appendix B.

Integrated, Streamlined, Accessible Technology Support and Mobile Access

While the desire for improved technology support was expressed in many listening sessions, it was most apparent in the student listening sessions. Students, in particular, remain frustrated with the slow speed of applications, and the need to install multiple applications on mobile devices - which is cumbersome and consumes a great deal of data - to register and pay for classes, access progress reports and grades, communicate with teaching faculty, and consult with advisors and counselors. Additionally, not all faculty are using Canvas yet, which poses an additional challenge/barrier for students, who rely on Canvas's grade posting to track their academic progress. The Vice President of Instruction's plan is to bring the remaining faculty onto Canvas by Fall 2019. Lastly, while many resources are available on the District website, these resources are often not mobile-friendly or user-friendly for students who are heavy users of mobile devices.

Replacement Plan / Lifecycle

The District will continue to reduce the planned lifecycle of computers. Currently, the lifecycle is approximately seven years. The goal is to reduce the time frame to four or five

years in order to ensure current technology is in place which has the speed and capability to support users and the applications that assist them in their work at the District.

Communications

The District has many systems for communication. These systems include communications between the District and the public (website), student services and students, faculty, and students, and more. The District will strive to make these systems easy to use, available on computers and mobile platforms, and reliable.

Students had many constructive comments for the Technology Master Plan. The following are a few related to communications:

- District portal is not responsive (is not easy to use on a mobile device)
- Have to load too many applications and access many different sites and pages to get things done (e.g., registration, grades, pay for classes, contacting instructor, etc. Would like a single, mobile-friendly portal to accomplish these tasks
- Faculty use different sites and platforms
- Can't access grades or status in many classes
- Breakdown in communication with faculty when ill, inclement weather, etc.
- Have to load too many apps on phones - uses too much data
- At peak registration times, the system is overloaded and kicks students off the system

Accessibility

Accessibility for both students and staff is an important consideration for technology in the classroom, library, and all campus sites. Compliance with accessibility requirements (Section 504 and 508 Compliance - see Board Policy 5140) involves both the access and use of technology on campus, as well as textbooks, support materials, online access, email, audio, and visual supplemental materials, etc.

Accessibility is important for the classroom environment, distance education classes, instructional materials, and student and administrative support services. This has become an even greater concern with expanding distance education classes and support services, and the expanded use of automated processes and technology in general. Further consideration must be given to electronic signage, media, and technological modes of communication such as the District website, portal, and "MC All" notifications.

Business Continuity / Disaster Recovery

Business Continuity is defined as the ability of an organization to maintain essential functions during, as well as after, a disaster has occurred. This topic is broader than the scope of this master plan. However, technology will play a large part in the institutions' ability to recover from a disaster. One must keep in mind that disasters come in all sizes and the process for recovering from a small loss will be different than that of recovering something great.

The District will develop and maintain a disaster recovery plan for key technology services. This plan will include systematic backup and recovery of servers and data, redundant core network paths, backup/redundant power for network infrastructure components, backup electrical generator for data center locations, redundant cooling systems for data center locations. Additionally, complex services such as that of the Enterprise Resource Planning (ERP) system and Student Information System (SIS) will be identified to be made available from an alternative location either by physical or virtual means. The details of these services and the circumstances of their use will be identified and documented as part of the District's overall Business Continuity Plan.

Safety and Security

The District will maintain systems that are safe for use by proactively cleaning end-user computing devices of malware and ensuring that they are receiving timely manufacturer's updates. In addition, the District will protect the technology infrastructure and data from compromise or abuse from inside or outside of the organization through the application of procedures and policies as well as specialized security technology. The District will conduct regular network security assessments of itself in order to improve overall security. Cybersecurity training will be offered on current topics to all staff on an on-going basis.

Data / Research

There is some confusion among District staff as to the departments that maintain and access and analyze data. Data is hosted in systems managed by ITS. Research staff access the data and conduct analysis on it.

Users at Merced College need to find the data directly responding to their needs easily. This would ideally be done without overwhelming the researchers with a huge quantity of custom requests. To make this process more efficient, there must be collaboration and communication between ITS, Research, and data users. The District is working on developing such collaboration through the merger of the ITS and Institutional Research Departments.

An approach being considered to make data more available and user-friendly is the creation of a data report plan. This would involve an iterative process to define a group of useful reports for faculty and other users. Additionally, dashboards and reports would be developed for accreditation, master plan tracking, program review, board reports, and other ongoing uses.

Implications for Facilities

The buildings and outdoor spaces are inextricably linked with technology on every college campus. Merced College will ensure the facilities at all locations support users' technology needs. This starts with the buildings. They must be built with important underlying infrastructure. This includes electrical outlets, appropriate wiring, accommodation for future wiring, wireless internet connectivity, screens, whiteboards, gas, water, and other laboratory infrastructure. Most importantly, technology needs to be considered up front in facilities planning. One or more members of the Technology Committee should be part of the development of the Facilities Master Plan. They should also be involved in the development of all Requests For Proposals (RFPs), interviewing and scoping for new construction and renovation projects.

It is important to include student representation on future facilities projects to ensure their needs are considered. There must be convenient power outlets, reliable Wi-Fi (indoors and outdoors), and cell phone access.

Students mentioned some important technology needs. These included dependable wireless internet access in all buildings, outdoors and in athletic facilities. They want more charging stations in classrooms and public spaces. They would like the sound system improved in the theater, gymnasium, football field, and other locations. Students have also requested electronic (non-coin operated) parking meters, which are currently being installed and will be completed by the end of Spring 2019. They also request technology at the concession stand, including charging stations and a card system.

The District will develop technology standards for renovations and new facilities. These standards must also include standards for classroom instructional technology, computer labs, etc. Administrative procedures should be updated to require architects and contractors to follow these standards when bidding on facilities projects and when doing design and construction work.

Distance Education

There is no greater need for technology than in support of Distance Education. This increasing sector of Merced College's educational program must be well-supported by technology that provides the same quality of instructional and student support services as those for on-site, face-to-face classes. Technology support for the teaching and learning environment, academic support services, and student support services must all be included.

Also, the needs of students, faculty, staff, and administrators must be considered in all aspects of technology acquisition, training, use, and technical support.

Training and Professional Development

The need for training and development was identified in most listening sessions of both students and staff at all levels and described as an important aspect of the TMP. High priority areas for training and development ranged from orientation of students and staff new to the District, just-in-time training for software and new technologies, large-scale training for large systems implementations, to professional development for emerging technologies. It was also emphasized that technology training should be an important component during the onboarding of new students and staff, and that professional development opportunities are critical to career advancement and succession planning for existing employees.

Technology and the Future

Stakeholders want to establish systems that encourage and facilitate forward thinking with respect to technology - a kind of technology "think tank." Many people commented that in the daily running of the District, there is little time for envisioning how technology can improve efficiencies for staff and faculty and improve learning for students. There is a strong desire at the District to create opportunities for such visioning. This might be spearheaded by the Technology Committee or some other committee but should invite participation and input from all stakeholders at the District. Mechanisms will be put in place to gather information and ideas and share them with the District community.

This ongoing visioning should be both proactive and should respond to actual needs. Needs should be expressed in program reviews, committee reports, area meetings, and through further informal channels such as group discussions. Additionally, the District must keep abreast of advances in technology, especially in higher education, and each department must keep abreast of discipline-specific technology advances that can be integrated into instructional programs and administrative and student support services. Identified needs, anticipated advancements, and the results of visioning discussions should be routed through the Technology Committee for consideration, deliberation, and feedback.

In discussing how the District might approach innovation and futures thinking in a more proactive manner, the TMPC identified three specific approaches:

1) The Technology Committee should keep abreast of trends in higher education through technology staff who will attend conferences and training.
2) Technology Committee members and ITS Department staff should visit other institutions of higher education for cross-sharing of technology knowledge and practices.
3) Informational presentations and demos should be scheduled for Technology Committee meetings to allow for review and discussion of trends and new technologies.

Key Technology Priorities for 2019-2014

As discussed earlier in this document, key technology priorities are tied to the integrated planning process of the District. The Educational Master Plan (EMP) identifies the District's five-year goals and objectives. The Strategic Implementation Plan (SIP) operationalizes these goals and objectives through action plans. Subsequently, the District's Facilities Master Plan (FMP), Technology Master Plan (TMP), Staffing and other operational plans are derived from the EMP and SIP. In this manner, action teams and existing District committees already working on EMP goals and objectives will integrate the Technology Master Plan key priorities into their plan of work and timeline.

The TMPC, serving as a steering committee, provided oversight to the development of this Technology Master Plan. The Committee reviewed all of the input from listening sessions to synthesize the greatest needs for the next five years. They also engaged in dialogue about future thinking and the proactive role the District will take to realize the Vision for Technology for Merced College as stated at the beginning of this document. Seven Key Technology Priorities were identified for the 2019-2024 Technology Master Plan. These seven key priorities are delineated in the chart that follows, along with each priority's linkage to the SIP Objectives and action plans.

Priority #	Five Year Technology Priorities	SIP Linkage
Priority #1: Accessibility and Purchasing - Ensure accessibility for all staff and students; include 508 compliance and the total cost of ownership (TCO) in all technology acquisitions.		
	Continue reducing planned lifecycle of computers (now down to 7 years…needs to be every 4-5 years for PCs	3.1.2
	Ensure accessibility and 508 compliance are considered in the acquisition and TCO process	4.2.1 4.2.2
	Before buying new systems, define the problem, what is the desired solution, what other uses might it have, and with what other systems should it integrate	6.2.3
	Implement new technology with analyzing long-term usefulness as a part of the process	3.2.3 6.1.2
	Implement Software inventory/license tracking	3.1.2 6.2.2

	Provide a sustainable stream of funding with a tie to district goals)	3.1.2 3.2.3 3.4.1 4.2.3 4.3.5
Priority #2: Data Security, Management and Reporting - Strengthen data security, management and reporting.		
	Add codes & waitlist automation	2.2.1
	Strengthen Enrollment Management	1.2.1 1.2.2 1.2.3 1.2.4 1.2.5 1.2.6
	Strengthen Data Management & Reporting	6.2.1 6.2.2 6.2.3
	Strengthen cyber, data, and technology security	4.1.5
Priority #3: Systematic Planning - Exercise a systematic approach to planning for technology needs, such as classroom software.		
	Integrate technology planning into EMP, FMP and SIP plans	3.2.3 4.2.1 4.2.2
	Ensure Program reviews identify technology needs and these should be looked at as a whole for prioritization, not a separate duplicative process	6.1.1
	Use a systemic approach to classroom software	6.2.2
	Plan facilities holistically (facilities/classrooms/technology equipment) Include Technology Committee in planning. Coordination between FMP & ITS	3.1.2 3.2.3 4.2.3 6.1.1
	Renovate (facilities/infrastructure etc.) Include Technology Committee	4.2.2

	Engage in Innovations (proactive approach to technological advancement)	3.2.1 4.2.1 6.1.1
Priority #4: System Implementation and Canvas - Automate and streamline system implementations and functions. Transition all remaining faculty to Canvas in order to better support student success.		
	Prepare students for the future by being proactive in our use of technology	3.1.2 4.2.2
	Adopt Standards for classroom technology and faculty/staff offices so new employees know what they are getting and as people change offices/positions, and faculty and students move from one classroom or computer lab to another everything is the same	6.2.2
	Transition all remaining instructors to Canvas as the standard CMS.	1.7.1 1.7.2
	Plan for developing implementation teams and transition plans before and after purchasing new systems	6.1.2
	Continue to automate more manual procedures	6.2.4
	Automate forms; "paperless college"	6.2.4
	Plan for developing implementation teams and transition plans before & after purchasing new systems	6.1.2
Priority #5: Wi-Fi Upgrades - Upgrade and ensure consistent accessibility to Wi-Fi throughout the College, both indoors and outside on campus.		
	Upgrade/enhance Wi-Fi throughout the College District (indoors and outdoors)	4.2.1 4.2.2 6.2.1
Priority #6: Training and Support - Support, and fund, professional development, training, and technical support for the effective and efficient use of new and existing technology, especially when onboarding students and staff, technology, maximizing use of the new ETTC.		

	Consider technology needs when adding/replacing staff; i.e. Total Cost of Ownership of onboarding new staff – both full- and part-time (technology, training etc.)	6.4.6 6.4.8
	Allocate sufficient funds towards training and technical support	4.2.1? 4.2.2 6.4.1
	Provide training for students regarding technology/resources (Resource storage already in Portal: onboarding office 365; one note)	2.2.4
	Provide greater availability of ITS staff and staff support	6.4.5 6.4.6 6.4.7 6.4.8
	Provide technology orientation and training for onboarding of new employees	6.2.2
	Consider training with new software/equipment (utilize ETTC)	6.2.2
	Enhance student orientation to include training on access and use of College applications	2.2.4 2.4.4
	Replace aged and failing Dbase program used by Fiscal Services for Grant/Categorical fund disbursement. Identify current processes and requirements in order to develop most effective technological solution.	6.2.3
Priority #7: Communications - Make website, portal, and mobile access more user-friendly to students, staff, and the public.		
	Make Website more user friendly to the public; improve mobile access for students and reduce number of required applications	3.3.1 6.2.1
	Anticipate technology trends in society and higher education, and be a leader in developing innovative means of communicating with students, staff and the public across multiple channels (website, portal, email, SMS, digital signage, print publications)	6.2.3
	Provide technical support and training in order to improve reliability and accuracy of webpage content and other digital communications efforts	6.2.2
	By 2021, implement a mobile-first website which prioritizes accessibility and ease-of-use as well as embraces a design strategy that optimizes content for mobile users first then adds layers for desktop users.	3.3.1

	Strengthen the unified voice and visual identity of the District through asset management, branding guidelines, employee training, and access to downloadable logo resources and templates	3.3.1

Next Steps

Upon adoption of the Merced College Technology Master Plan 2019-2024, the seven key technology plan priorities identified will be integrated into action plans by the respective action planning team(s) responsible for that SIP objective. The Technology Committee will track progress on the seven key priorities along with its regular operational committee work until the next planning cycle commences in 2023. Integrated planning discussion will take place at the College's Educational Master Planning Committee (EMPC) quarterly meetings throughout the five-year plan.

Appendices

A. Technology Committee Purpose Statement

The role of the Technology Committee is to be an operational committee that provides inclusive discussion of technology related matters that affect all areas of the District, which includes the President's Office, Office of Instruction, Administrative Services, and Student Services. The Technology Committee supports the District's Educational Master Plan through participation in the Strategic Implementation Plan and creating and maintaining the Technology Master Plan.

The purpose of the Technology Master Planning Committee is to provide direction and oversight of technology affecting all areas of the District, including Instruction, Student Services, Administrative Services, and the President's Office. The TMPC serves as the steering committee to create, review, and oversee implementation of the Technology Master Plan. The Technology Committee works collaboratively to provide direction for program review, planning, and resource allocation as it pertains to technology. The TMPC will serve as a forum to critically examine new strategic technologies and address ways to maximize the efficient/sustainable use of technology resources to support the District's Strategic Goals, as well as meet Accreditation Standards.

Members (17):

- Co-Chairs (2): AVP ITS /CTO and a member elected by the committee.
- Office of Instruction representative appointed by VPI (1)
- Student Services representatives appointed by VPSS (2)
- Administrative Services representatives appointed by VPAS (2)
- ITS Management representative appointed by CTO (1)
- LMS Classified Professional representative appointed by CTO (1)

- Full-Time Faculty appointed by VPI/Academic Senate (2)
- Part-Time Faculty appointed by VPI/Academic Senate (1)
- Staff Development representative appointed by Director HR (1)
- ITS Classified Professional representative appointed by CTO (1)
- Student representative appointed by ASMC (1)
- Dean, Learning Resources Center (1)
- Dean, Los Banos Campus or their designee (1)

Resource Persons

- AVP/CTO's Administrative Assistant

- Others such as web designer as needed

Member Terms

- Membership is continuous, with the exception of representatives from MCFA, CSEA, Academic Senate, Classified Senate, Management Team, and Deans each serve two-year terms, and a representative from ASMC serves a one-year term.

Meeting Schedule

- Monthly during the fall and spring semesters

Reporting Relationships

- The committee reports to the Educational Master Planning Committee.

Evaluation

- The committee self-evaluates annually.

B. Processes Recommended for Automation

High Priority processes recommended for automation over the next three years:

- Adds, drops, and flagged student drops (pre/co-requisites)

- Automated wait list. [For example, before semester starts, if a student drops, the next student on the waitlist should be moved up.]

- Automate the searchable Staff Directory on the public-facing website so that it connects to an enterprise resource planning (ERP) (as a data source), and includes all staff and faculty (also adjunct faculty).

- Reporting Needs, Budget Reports (SQL Reports). Examples:

- - Data needed for IPEDs is not available until mid-October due to internal processes at Merced College.
    - Downloading of Colleague into LMS for the library

- Student fees and fines. The current process is manual, which causes a delay in reflecting fees or fines in a student's account.

- Templates for the district. Examples:

    - Universal home page in Canvas. Universal design for learning, especially in DE courses, would be practical in meeting accessibility needs.
    - Batch process PDFs

- Replace paper processes (forms/requests) with paperless automation processes that provide tracking for accountability purposes (workflow/project management).

- Program to track staff development, which is currently tracked through HR.

- Have Colleague generate re-employment notices (automation process).

- Electronic signage board for the Quad Area.

- Touch Screen maps to be placed throughout the campus.

- Get rid of the D-Base computer in Fiscal Services.

B. Key System Technologies

Following is a list of the key enterprise systems currently used at Merced College.

- Colleague – ERP/SIS
- SARS – Contact scheduling
- Navigate – Student onboarding
- ImageNow – Document Imaging
- Tableau – Data visualization tool
- SharePoint – Student Portal and web-based collaboration
- OmniUpdate – Content Management System
- Microsoft Exchange – Email server
- EMS – Room scheduling software