



Technology Master Plan

2020-2025

OHLONE COMMUNITY COLLEGE DISTRICT

SPRING 2020

EXECUTIVE SUMMARY

Ohlone Community College District (District) adopted the 2020-2025 Strategic Plan focusing on inclusiveness, innovation, integrity, engagement and exceptional student success. The strategic plan has provided the framework for all other plans the District will implement to fully utilize resources to achieve its goals. These plans include the Educational Master Plan, Facilities Master Plan, Equal Employment Opportunity Plan, Master Safety Plan, and Site Security Systems Master Plan. However, the strategy toward the efficient and effective use of information technology resources has been the missing component.

The Technology Committee is the collegial body charged to ensure the effective use of the District's information systems and technology. Working collectively as a group and subgroups, the Technology Committee developed a road map for the effective use and delivery of technology resources consistent and aligned with the District's 2020-2025 Strategic Plan. The Technology Master Plan's goals and objectives answered the strategies needed to fully support and embrace student success and institutional effectiveness consistent with the 2020-2025 Strategic Plan's goals 1, 2, 3, 4, 5, respectively under the framework of diversity, equity, and inclusion.

The concept of universal design is of great importance because of the District's rich diverse culture. While it is a legal requirement to adhere to the accessibility information and communications technology, the District affirms its obligation to adhere to the accessibility of information and communications technology through the adoption of universal design concepts. This principle is embedded as a fundamental philosophy in implementing systems and technology. Embracing the concept of universal design empowers the District to further inculcate and promote equity, inclusiveness, and diversity through its information systems and technology resources.

The Technology Master Plan has four distinct goals. The goals address the functional use of information systems and technology across the District. Goal 1 focuses on instructional systems and technology or academic technology, which includes systems or technologies that directly affects teaching and learning and the delivery of services to students. Goal 2 focuses on institutional or administrative technology, which includes information systems and technologies that affects the District operations, data-informed decision-making, information dissemination, and knowledge-sharing. Goal 3 focuses on technology infrastructure, the underlying infrastructure that enables other systems and technologies to function. Finally, Goal 4 focuses on information security, which is an added importance to protect sensitive and personally identifiable information. All goals include training as an embedded activity to ensure students and employees are prepared in using technology as a tool for teaching, learning, and effectiveness. There is a total of 19 objectives spread across the five goals.

The approval of the Technology Master Plan by the Board of Trustees precedes the annual development and review of the action plans/initiatives to operationalize the goals and objectives. The action plans will serve as the deliverable items required to ensure the completion of the goals and objectives. Furthermore, the action plans align with the annual priorities of the District as defined during the planning and budgeting process; thus, integrating the implementation of the Technology Master Plan with the planning and budgeting process of the District.

THE TECHNOLOGY COMMITTEE MEMBERS

As part of the rich collegial governance culture of Ohlone Community College District, this Technology
TECHNOLOGY MASTER PLAN 2020-2025

Master Plan was an instrumental accomplishment and achievement of the Technology Committee. The members of the 2020-2021 Technology Committee are as follows:

VOTING MEMBERS

Ron Sha (Co-Chair)	Faculty CNET
Jennifer Hurley	Faculty, Languages and Communications
Deborah Lemon	Faculty, Languages and Communications
Tracy Virgil	Faculty, Languages and Communications
Rakesh Swamy	Faculty, Languages and Communications
Paul Mueller	Faculty, Kinesiology, Athletics and Arts
Laurel Richardson	Faculty, History
Dr. Lori Silverman	Dean, Science Engineering and Math
Mary Whilhelm-Chapin	Instructional Designer
Vy Le	Human Resources Supervisor
Arnie Loleng	Video Systems Engineer
Mike Martinez	Skilled Maintenance Worker
Ben Peralta	Campus Police Officer
Hiren Patel	ASOC Student
Haru Tsuchiya	ASOC Student

EX-OFFICIO MEMBERS

Scott Snyder (Co-Chair)	Executive Director Information Technology Services
Dr. Chris Dela Rosa	VP Administrative and Technology Services
Steven Reeves	Chief Information Security Officer
Lynn Hickson	Manager Information Technology Support and Services
Diana Garza	Senior Administrative Assistant, Information Technology Services
Dr. Eric Bishop	Superintendent/President
Tony DiSalvo	Vice President/Deputy Superintendent
Dr. Milton Lang	Vice President Student Services
Shairon Zingsheim	Vice President Human Resources and Training

THE MISSION OF OHLONE COMMUNITY COLLEGE DISTRICT

Ohlone College offers high quality educational and career pathways and personal enrichment courses to serve the diverse needs of all students and the community. Ohlone provides excellent instruction and support services; awards associate degrees and certificates; and promotes university transfer in an inclusive, equitable, and multicultural environment where student learning and achievement are paramount. Ohlone fosters innovation, encourages student expression, and promotes ethical behavior and global citizenship.

THE VISION OF OHLONE COMMUNITY COLLEGE DISTRICT

Ohlone College will be known for inclusiveness, innovation, integrity, engagement, and exceptional student success.

THE VALUES OF OHLONE COMMUNITY COLLEGE DISTRICT

Excellence

- We encourage and empower students and employees to achieve at their fullest potential, encouraging all to engage in ongoing learning and development through high quality education, collaboration and continuous institutional improvement.

Diversity and Inclusion

- In the spirit of social justice and equity, we strive to intentionally and purposefully support student and employees from diverse backgrounds, socio-economics groups, ages, abilities, and intersectional identities to reduce barriers in order to allow for greater opportunity to explore their interests and to maximize their ability to define and fulfill their higher education goals and career aspirations.

Innovation

- We encourage and foster strategic risk-taking in order to foster creativity and to generate new ideas that inspire students, faculty, and staff to optimize student learning and development.

Success

- We continually reassess our efforts to support our college community and provide the necessary resources and comprehensive support to assist students and employees in defining goals and enriching their educational and occupational experience, so that we can help develop active, contributing members to our college and global community.

Integrity

- We promote ethical behavior and practice transparent communication and decision making, emphasizing civility, respect, trust, mutual accountability, and honesty among students, employees, and communities we serve, in a climate where everyone feels empowered, heard and engaged.

Stewardship

- We engage in participatory/shared governance to provide an exemplary model of stewardship for human, financial, physical, technological, and environmental resources to maximize institutional effectiveness and efficiency.

Health and Wellness

- We promote the physical and emotional well-being of the college community by advocating for a healthy college environment, and leveraging comprehensive support services.

TECHNOLOGY AT OHLONE COMMUNITY COLLEGE DISTRICT – THE MISSION

Ohlone Community College District serves and supports the college community by responding with innovative and state-of-the-art technology that enhances institutional effectiveness and efficiency while embracing diversity, equity, and inclusion.

TECHNOLOGY VISION

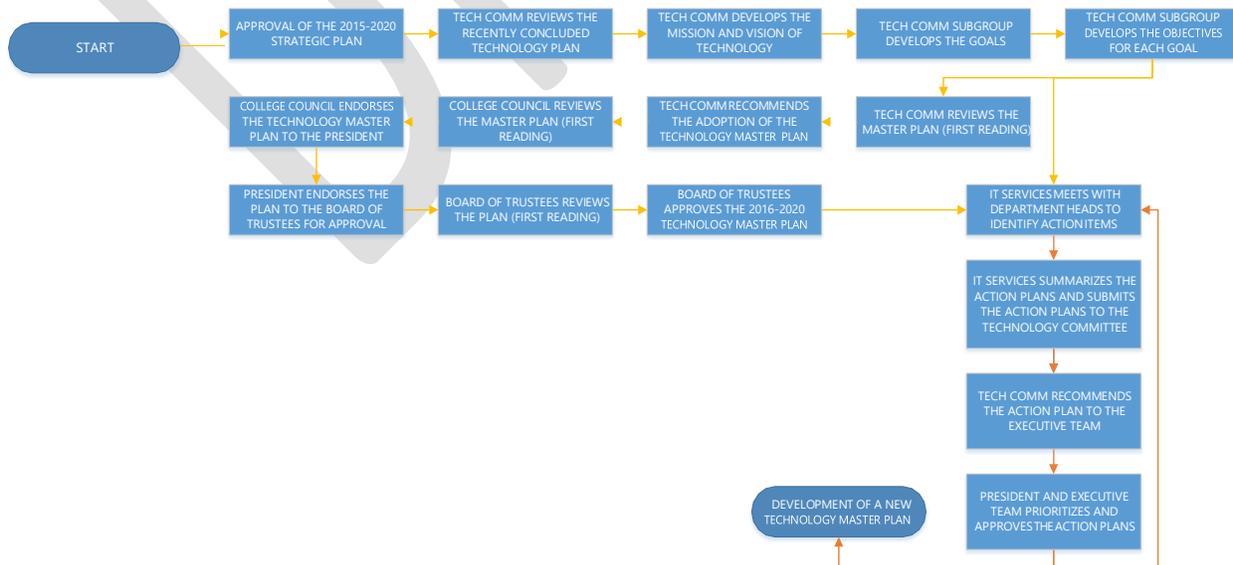
Technology at Ohlone College will be intentionally focused on diversity, equity, and inclusion, and will be universal, state-of-the art, innovative, available, and continually assessed that meets the needs of the college community.

FRAMEWORK OF THE PLAN

The Goals. The Technology Master Plan goals revolve on the functional aspect of information and communications technology. IT has grown and has been embedded in the core operations of all organizations, including higher education. The goals are a result of following classifications and categories that IT addresses – both on the systems and technology perspective. The goal is considered complete when all objectives under the goal have been completely addressed.

The Objectives. The Technology Master Plan’s objectives are from the deliberation and discussion among the Technology Committee members, which focused on areas that technology would address a problem or would meet a specific need. The objectives are time-bounded with explicit outcomes. The action items will enumerate the specific activities or projects to meet the objective. In the end, the District meets the objective when all action items or projects have been completed.

The Process. The Technology Committee is the primary driver in developing the Technology Master Plan. In adhering to the collegial governance process of the District, the plan has to go to the College Council. The College Council, serving as advisory to the President/Superintendent, endorses to the President the adoption of the plan after the Technology Committee finalizes the plan. The final step is the approval of the Board of Trustees. The flowchart of the development and approval process is shown below.



* Tech Comm stands for the Technology Committee for purposes of the flow chart.

The comprehensive list of action items will be developed separately and will be updated on an annual basis to ensure the relevance and currency of each action item or initiative. This is in recognition of the ever-changing technology landscape and the District priorities as the plan relates to the planning and budgeting processes. The President and the Executive Team will consider the technology-related initiatives/action items to align with the District's priorities and to ensure the most effective use of the limited resources available. A conversation with the different departments and divisions drove the development and compilation of the different initiatives requiring technology.

METHODOLOGY

The Technology Committee served as the lead proponent to develop a comprehensive plan for integrating the District's systems and technology initiatives with the District's 2020-2025 Strategic Plan, the Educational Master Plan, the Student Success and Support Program Plan, the Student Equity Plan, the Basic Skills Plan, Site Security Systems Master Plan, Facilities Master Plan, the Equal Employment Opportunity Plan, the marketing and branding initiative, and other plans and initiatives for the District. These plans and initiatives served as the impetus in developing the mission, vision, goals, and objectives. Likewise, action items and initiatives on the Technology Master Plan emanated from these plans and initiatives.



Ohlone Community College District Strategic Plan. The development of the Technology Master Plan started upon approval of the 2020-2025 Strategic Plan of Ohlone Community College District by the Board of Trustees. The rationale was to align and to ensure relevance of the technology goals and objectives with the strategic goals and objectives of the District. Likewise, the District's strategic plan included four objectives directly attuned to the Technology Master Plan:

- Strategic Goal 1 Objective 4 - Improve the student experience through comprehensive and reliable support services, regardless of location, time, or mode of course delivery as reflected in biennial student satisfaction surveys.
- Strategic Goal 1 Objective 5 – Improve student online learning experience through faculty training and consistent application of distance education guidelines.
- Strategic Goal 1 Objective 6 – Evaluate and identify program completion barriers and bottlenecks in order to increase degree and certificate attainment.
- Strategic Goal 1 Objective 9 – Increase enrollment in innovative educational opportunities.
- Strategic Goal 2 Objective 1 – Improve access to enrollment by identifying and removing unnecessary enrollment barriers to increase the application yield rate
- Strategic Goal 3 Objective 3 - Employ the effective use of technology to improve student learning and success, ensuring the technology is accessible, user friendly, adaptable, and convenient
- Strategic Goal 3 Objective 4 – Increase the efficiency and productivity of delivery of services and

use of resources

- Strategic Goal 4, Objective 1 -Create and improve ongoing professional development for all employees.
- Strategic Goal 5 Objective 2 – Improve communication and access to information across the College, ensuring a communication feedback loop.
- Strategic Goal 5 Objective 4 - Support equity, systematic planning, and informed decision making through robust, thoughtful, and contextualized data analysis.

Environmental Scanning. The Technology Committee evaluated the previous technology plan and highlighted the accomplishments. This served as the first part of the environmental scanning process. The committee identified the outstanding action items from the previous plan and determined the relevance. As technology changes, determining the relevance of action items was an important step to take. With the assistance from the different divisions and departments, the second part of the environmental scanning took place. Identifying the existing systems and technology and evaluating the extent of configuration and usage was a key in determining the effective and efficient use of systems within the District's technology environment.

The discussion regarding safety and security has prioritized the need for technology and systems related to safety and security. A working and fully integrated technology solution is critical for operations. Facilitating the ease-of-use is an essential component to a successful response to any safety and security related undertaking.

Finally, the District is known throughout the state for its high-achievement ranking and with its service to the Deaf Community. With this, the need to adhere to the principle of universal design is essential and critical to ensure technology is responsive to the needs of the college community and is embracing the diverse and rich culture of Ohlone.

Mission and Vision. An essential element of a good master plan is adhering and aligning with the over-arching strategic plan. In this case, the Ohlone Community College District's 2020-2025 Strategic Plan serves as the over-arching plan, which technology should address. The Technology Committee opened the avenue for developing a mission and vision statement consistent and aligned with the District's mission and vision statements. Using the District's core values, the Technology Committee did not see a need to develop a separate and distinct core value for technology because of the overarching applicability of the District's core values.

Goals and Objectives. The Technology Master Plan followed the framework of the District's 2020-2025 Strategic Plan. Goals and objectives provide the mechanism for achieving the mission and vision of technology for the District. The District's core values serve as principles on how to attain these goals and objectives.

Action Plan. Action plans will be developed to operationalize the goals and objectives. The action plans will be the collective work of all department and division heads in coordination with IT Services and with the Technology Committee. The action plan will be revisited annually as part of continuous quality improvement and as part of determining the relevance and currency of the technology and/or system. As part of this plan, the obvious technology initiatives are included to ensure the focus and priorities to address the objectives. The Action Plan gives a more concrete picture of how the objective will be accomplished.

Some of these plans are taken from other plans and initiatives underway such as the Strategic Plan (through its measurable outcomes), Educational Master Plan, Guided Pathways, Student Equity and Achievement, and Security Master Plan.

CONTINUOUS QUALITY IMPROVEMENT

As part of continuous quality improvement, there are two stages requiring assessment. The first is on the process of developing the plan. This is focused more on improving the processing of developing the master plan to aid in future master plans. The second is on the actual plan itself. The content assessment is to ensure the relevance and currency of the action plans.

Developing the Plan. As part of improving the process for the development of the next technology plan, the Technology Committee will be engaged in assessing the effectiveness of the framework and in soliciting feedback to improve the process. The result of this assessment will serve as the impetus either to keep the current framework and methodology or to change the process. The outcome is to ensure there is input from all groups on campus or at least to exert all efforts to participate.

Action Plan Review and Update. On an annual basis, the Technology Committee will review the action items of each goal/objective and determine the relevance and currency. Relevance is in alignment with the need of the District (or a department/division) to implement the system or technology in addressing a need or in solving a problem. On the other hand, currency is the viability of the specific system or technology solution during the time of planning and implementation. Currency is more on the specific solution intended for the problem or need relevant to the District. The Technology Committee will update and will recommend the action items for implementation.

INFORMATION SYSTEMS AND TECHNOLOGY AT THE DISTRICT

As part of environmental scanning, the District has implemented either partially or completely these technologies and how these technologies stand in terms of new trends. This will provide the baseline in determining advancement in technology and systems attuned to the needs of the District.

Classroom and Laboratory Technology. Updated standards for classroom and laboratories are established on an annual basis to keep pace with technology changes and improvements. With the completion of the Academic Core Buildings (ACB) on the Fremont campus, state of the art classroom and laboratory technology have been implemented. In addition, many of the large classrooms at the Newark center have been updated with new improved classroom technology for audio visual systems.

The laboratory setup includes a set of computers. The number of computers depends on the physical room size and the class size. The lab setup varies between Microsoft Windows-based, Mac OS-based, or dual boot machines. The type of machine deployed on a lab depends on the courses offered on the class with specific platform and/or software requirements. Sharing of labs is also evident on campus to maximize the use of these labs that requires significant investment. A review of the usage may help the District identify new labs to meet the demands of the ever-growing technology-based instruction.

The Newark campus uses laptop carts to support lab classes. The concept of mobility has been implemented at the Newark Campus since its inception and presently addresses the need of the classes at Newark. However, operational procedures may require a re-assessment to ensure that the technology continues to support the academic needs.

Windows and Mac Operating Systems. Most computer operating systems at the district are running on Windows 10 or MacOS. Standardized systems allow for easier management and administration of new computers.



Virtual Desktop Infrastructure (VDI). VDI has been installed in some labs and is working very well for some lab courses. Faculty and students can also access the VDI systems remotely (off campus). In recent years, higher education started to deploy virtual desktop infrastructure (VDI) or virtualization on Windows-based labs, classrooms, and offices. This is an opportunity for the District to explore the advantages of VDI. Though this will not result to a lower total cost of ownership, implementation from other institutions saw an improvement in service delivery and less downtime in managing and administering computers. Newer VDI implementations extend the use to address personally owned devices (bring your own devices or BYOD).



Wired and Wireless Technology. All buildings and campuses are fully equipped with wired infrastructure both for phones and data. The wired network infrastructure supports our information data network used for teaching and learning and in the day-to-day operations of the District. As the technology changes, this may be an opportunity to upgrade old cabling standards to newer standards that comply with the standards adopted by the Institute of Electrical and Electronics Engineers (IEEE) and governmental agencies.



The wireless infrastructure has been standardized in both the Fremont and Newark campus. This new system provides separate wireless access for employee, students and guests. In addition, the locations to where wireless is available has been expanded on both campuses, not only inside buildings but also in outdoor areas such as the Newark Center courtyard and the parking lots on the Fremont campus. More wireless access in other locations will need to be considered.

ERP System. Ellucian's® Colleague system is the District's ERP system *(ERP System, which means Enterprise Resource Planning System, is a collection of applications or modules interacting with each other using a single database for storing and processing data.)* The system includes the student information system, the financial and accounting system, financial aid system, and the human resources and payroll system. The current platform Colleague uses as its database is Unidata. The Colleague web interface used by both students and employees is WebAdvisor. Ellucian Colleague Self Service will provide a more user friendly and function rich platform for our students and staff. This will replace WebAdvisor as we know it. The functional areas within Colleague Self Service include; Student, Financial Aid, Finance including Student Accounts Receivable, HR and Payroll.

Colleague® by Ellucian

The District has also adopted third-party systems to supplement the functionality of Colleague. Although there are third-party systems in place, the authoritative system resides with Colleague. Colleague drives the creation of network domain user accounts and the ability of students and employees to access different systems. A review of the integration strategy of third-party systems with Colleague is important to ensure data accuracy and integrity.

Other software application options are available through Ellucian to increase functionality and to leverage seamless integration with baseline Colleague ERP, such as Ellucian Ethos for a more efficient integration of third-party software and applications with Colleague and Ellucian CRM Advise to increase communication, scheduling, and advising for students. Ellucian mobile app (called Ellucian Go) has been implemented and is available.



Learning Management System. The District utilizes the Instructure® Canvas platform as its official learning management system. Recently, numerous third-party applications have been integrated into Canvas to further enhance ability to teach and learn via Canvas LMS. The ability to allow online courses available from other California Community Colleges is being adopted. This will allow students to complete course requirements at another California Community College if the course is not available at their host college. This option is part of the Online Education Initiative from the California Community College’s Chancellor’s Office. The adoption would open opportunities for online course exchange among the other 112 community colleges across the state participating in this program. Training for faculty and students is an essential element of a successful adoption. Helping and assisting the faculty to migrate their course content from the old platform to Canvas is also necessary.

Document Retention and Management. The District has implemented document management with built in workflow. Admissions and Records has adopted document management using Lexmark’s



ImageNow system, which interfaces with Colleague. There is an opportunity to expand the use of document management to other areas of the District after developing a document retention procedure standard across the District considering applicable laws and statutes governing electronic document retention.

Reporting and Data Gathering. With Colleague as the primary source of information, there is an opportunity to increase the use of Entrinsik’s Informer for business intelligence. Customization of reports in Colleague may be avoided using this tool. Expanding the use of the tool to analyze and synthesize data from various data sources enables the District to use disparate data for a more comprehensive data-driven report generation and decision-making.



Electronic Mail System. The District’s electronic mail system has been migrated to Microsoft Office 365 for employees and students. This has proven beneficial for stability, security, usability as well as added features. The MS Office 365 suite includes MS Office standard applications as well as additional applications providing more opportunity for employees and students to work efficiently and providing a common, organized platform. A couple of these applications, such as MS Teams and One Drive have been very beneficial. One Drive providing cloud storage in secure cloud location.



Phone System. The District has migrated all users to voice over IP (VOIP) for all staff. With this upgrade phones have been installed in many classrooms. This has also enabled the feature of integrated voice messaging so that voicemails are transcribed to email messages thus enhancing communication. Service phones (phones located on elevators, facsimile lines, the blue phones, and the like) must remain analog to ensure continuity of service in the event of power and/or network disruption.



Information Security. Protecting information is a primary consideration when deploying systems/technology and providing access to users. The challenge in balancing security of information and access to information is the ever-changing modality of the technology and the way people use the technology. Awareness is critical for prevention. Information security awareness must be embraced within the District to enable users to be aware and cautious in using online systems and technologies. At the same time, the District need to develop procedures and protocols in addressing

scenarios of breaches covering network breach, exposure of personally identifiable information, and both.

Web Presence. The District’s website was updated in 2016 incorporating a modern look and feel along with current technology features. This also includes consistency of design and format. In addition, websites that were hosted outside of the district but branded as Ohlone were migrated to the new website. The website runs on the Drupal content management system which is used to make many of the websites and applications used every day. Drupal has great standard features, like easy content authoring, reliable performance, and excellent security. The website has a responsive design which is the ability of the website to change its appearance depending on the type of device used (computer, tablet, and smart phones). Additionally, the decentralization of editing webpages has been put in place allowing the departments and divisions the ability to update their content timely.



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ALIGNMENT OF TECHNOLOGY GOALS WITH THE DISTRICT'S STRATEGIC PLAN

The Technology Committee ensured the alignment of the Technology Master Plan with the District's 2020-2025 Strategic Plan. The alignment ensures the responsibility of information systems and technology to the District's strategic goals and objectives. The expectation is for the Technology Master Plan to serve as a guide on how information systems and technology at Ohlone responds to the strategic goals and objectives of the District and how IT Services will collaborate with other departments and divisions to achieve their goals, to solve problems, and to share information and knowledge.

GOALS

Consistent with the mission and vision of technology at Ohlone Community College District and with the values of the District, technology will pursue the following goals. These goals integrate systems and technology in the core and auxiliary functions of the District to support student success and to achieve efficiency and effectiveness.

GOAL 1 – INSTRUCTIONAL SYSTEMS AND TECHNOLOGY

- Improve and enhance systems and technology to support learning, achievement, experience, and overall student success (Strategic Goal #1, #4)

GOAL 2 – INSTITUTIONAL/ADMINISTRATIVE SYSTEMS AND TECHNOLOGY

- Improve and enhance systems and technology to support the operations of the District, promote efficiency and efficacy, and increase communications. (Strategic Goal #3, #4, #5)

GOAL 3 – TECHNOLOGY INFRASTRUCTURE

- Provide a technology infrastructure integrating innovative and state-of-the-art systems and technology that are flexible, scalable, available, adaptable, and accessible. (Strategic Goal #2, #3)

GOAL 4 – INFORMATION SECURITY

- Provide an environment balancing the availability of information with securing the sensitive and confidential information of all stakeholders. (Strategic Goal #3)

OBJECTIVES

To measure the accomplishment of each goal, the Technology Master Plan includes these objectives.

GOAL 1 – INSTRUCTIONAL SYSTEMS AND TECHNOLOGY - Improve and enhance systems and technology to support learning, achievement, experience, and overall student success.

- Objective 1.1. By 2022, implement systems and technology to support initiatives that help students clarify the path. (Guided Pathways Pillar #1) (Strategic Goal 1 Objective 1)
 - Action 1.1.1 - By 2022, implement the Choose Your Career section of the Website based on the areas of interest.
- Objective 1.2. By 2022, implement systems and technology to support initiatives that help students choose and enter the path. (Guided Pathways Pillar #2) (Strategic Goal 1 Objective 1 and 9) (Strategic Goal 2 Objective 1)
 - Action 1.2.1 – By 2020, implement CCC Apply for noncredit.
 - Action 1.2.2 – By 2022, implement Ellucian CRM Advise, customer relationship management system.
- Objective 1.3. By 2021, implement systems and technology to support initiatives that help students stay on the path. (Guided Pathways Pillar #3) (Strategic Goal 1 Objective 1, 6 and 9)

- Action 1.3.1 – By 2021, implement Student Planning/Educational Plan – Colleague Student Self-Service.
- Action 1.3.2 – By 2021, implement CVC/OEI Course Exchange.
- Objective 1.4. By 2025, implement systems and technology to support initiatives that help ensure learning. (Guided Pathways Pillar #4) (Strategic Goal 1 Objective 2).
 - Action 1.4.1 - By 2025, adopt third-party applications and plug-ins compliant with electronic accessibility.
- Objective 1.5 By 2025, implement systems and technology to support disproportionately impacted students. (Student Equity and Achievement) (Strategic Goal 1 Objective 2 and 5), (Strategic Goal 4 Objective 2)
 - Action 1.5.1 – By 2022, implement the Chosen Name for all systems and applications.
 - Action 1.5.2 – By 2025, extended support technology support to students using various means.
- Objective 1.6 By 2020, implement systems and technology to support and streamline student’s administrative processes (Strategic Goal 1 Objective 4)
 - Action 1.6.1 - By 2020, implement CampusLogic to streamline Financial Aid forms completion and acceptance.
 - Action 1.6.2 – By 2020, Implement Dynamic Forms (online forms) to streamline student forms completion and processing.

GOAL 2 – INSTITUTIONAL/ADMINISTRATIVE SYSTEMS AND TECHNOLOGY

- Objective 2.1 By 2022, enhance administrative systems to improve support services to employees. [intended for HR/Payroll] (Strategic Goal 3 Objective 4) (Strategic Goal 4 Objective 1)
 - Action 2.1.1 – By 2021, implement electronic time entry (web time entry).
 - Action 2.1.2 – By 2021, implement an accurate retirement report (STRS/PERS).
 - Action 2.1.3 – By 2021, Implement electronic workflow and electronic signatures for various HR and Payroll forms.
 - Action 2.1.4 – By 2022, implement document management for personnel files.
 - Action 2.1.5 – By 2020, enhance Professional Development DB application.
 - Action 2.1.6 – By 2022, implement Employee Self-Service.
- Objective 2.2. By 2025, enhance fiscal and business operations. [business services and purchasing] (Strategic Goal 3 Objective 4)
 - Action 2.2.1 – By 2021, implement electronic signatures for various forms in accounting, cashing, and purchasing.
 - Action 2.2.2 – By 2025, implement electronic payment of accounts payables.
 - Action 2.2.3 – By 2021, implement Student Finance Self Service.
 - Action 2.2.4 – By 2023, implement Total Cost of ownership plan (TCO)
- Objective 2.3 By 2022, implement technologies for timely communication with the college community. (Strategic Goal 5, Objective 2)
 - Action 2.3.1 – By 2021, implement electronic signboards in all buildings.
 - Action 2.3.2 – By 2021, enhance the currency of available information on the website.
 - Action 2.3.3 – By 2022, enhance the implementation of events schedules on the website.
- Objective 2.4. By 2025, implement the use of business intelligence tools to support decision making and strategic planning accurately and timely. (Strategic Goal 5 Objective 4)
 - Action 2.4.1 – By 2025, implement a data warehouse capable of generating daily reports essential to enrollment management and data mining.
 - Action 2.4.2. – By 2021, implement the Nuventive software for managing and administering all plans of the District.

GOAL 3 – TECHNOLOGY INFRASTRUCTURE

- Objective 3.1. By 2021, implement a robust, flexible, and scalable wired and wireless technology infrastructure in all learning and operational spaces across the District. (Strategic Goal 2 Objective 1, 6)
 - Action 3.1.1 – By 2020, implement additional wireless access points in parking lots at the Fremont Campus.
 - Action 3.1.2 – By 2021, implement additional wireless access points in parking lots at the Newark Campus.
- Objective 3.2. By 2025, adopt cloud technology on applicable systems as an extension of the College's technology infrastructure to ensure continuity of critical services. (Strategic Goal 3 Objective 4)
 - Action 3.3.1 – By 2025, move other on-premise systems to the Ohlone Amazon Web Services platform.
- Objective 3.3. By 2025, stabilize the replacement of computers, network equipment, and other technology equipment following a periodic cycle to maintain currency. (Strategic Goal 3 Objective 3)
 - Action 3.4.1 – By 2025, prioritize the replacement of computers and laptops not in compliance with the District's computer replacement program.
- Objective 3.4. By 2022, implement virtual technology on both desktops and infrastructure for enhancing efficiency and for promoting sustainability. (Strategic Goal 3 Objective 3)
 - Action 3.5.1 - By 2022, implement virtual desktops for administrative staff.
- Objective 3.5 By 2021, Restructure Active Directory (AD) and implement programs to model the district organization structure and security. (Strategic Goal 3 Objective 4)
 - Action 3.6.1 - By 2020, restructure MS Active Directory to mirror district organization structure to enhance organization, security and resource provisioning.
 - Action 3.6.2 – By 2021, implement an identity management system (Microsoft Identity Management).

GOAL 4 – INFORMATION SECURITY

- Objective 4.1 By 2020, create a comprehensive information system security plan. (Strategic Goal 3, Objective 3 and 4)
 - Action 4.1.1 - By 2020, complete the review of information security laws and regulations to align District policy, administrative procedures, and guidelines.
 - Action 4.1.2 – By 2020, define a governance structure for information security.
 - Action 4.1.3 – By 2020, complete the inventory of hardware, software, and other control mechanisms related to information security including the assessment security risks and vulnerabilities.
 - Action 4.1.4 – By 2020, create a data classification aligned with information security practices and standards.
 - Action 4.1.5 – By 2020, implement a District Incident Response plan.
- Objective 4.2 By 2020, implement best practices in higher education information security in all major District-wide information systems and technologies such as student information system, finance and accounting system, HR and payroll systems, room management, content management system, course management system, and electronic mail system. (Strategic Goal 3, Objective 3 and 4)
 - Action 4.2.1 – By 2025, develop the framework and implemented the process for the annual audit of users and user access of the District's major information systems such as Colleague and MS Active Directory.
- Objective 4.3. By 2020, implement a District-wide information security awareness program for all students and employees. (Strategic Goal 3, Objective 3 and 4)
 - Action 4.3.1 – By 2020, implement an online training for employees and technical staff regarding information security.
 - Action 4.3.2 – By 2020, implement a periodic announcement/notification for students regarding security practices on the internet and safe handling of portable devices.
- Objective 4.4. By 2022, implement a single credential to access all major information systems and other

major technology services. (Strategic Goal 3, Objective 3 and 4)

- Action 4.4.1 – By 2022, implement single-sign on to third party applications as they are implemented.

SUMMARY OF THE GOALS AND OBJECTIVES

As a summary, the 2020-2025 Technology Master Plan has the following goals and objectives.

GOAL 1 – INSTRUCTIONAL SYSTEMS AND TECHNOLOGY – Improve and enhance systems and technology to support learning, achievement, experience, and overall student success (Strategic Goal #1, #4)

- Objective 1.1. By 2022, implement systems and technology to support initiatives that help students clarify the path. (Guided Pathways Pillar #1) (Strategic Goal 1 Objective 1)
- Objective 1.2. By 2022, implement systems and technology to support initiatives that help students choose and enter the path. (Guided Pathways Pillar #2) (Strategic Goal 1 Objective 1 and 9) (Strategic Goal 2 Objective 1)
- Objective 1.3. By 2021, implement systems and technology to support initiatives that help students stay on the path. (Guided Pathways Pillar #3) (Strategic Goal 1 Objective 1, 6 and 9)
- Objective 1.4. By 2025, implement systems and technology to support initiatives that help ensure learning. (Guided Pathways Pillar #4) (Strategic Goal 1 Objective 2).
- Objective 1.5 By 2025, implement systems and technology to support disproportionately impacted students. (Student Equity and Achievement) (Strategic Goal 1 Objective 2 and 5), (Strategic Goal 4 Objective 2)
- Objective 1.6 By 2020, implement systems and technology to support and streamline student’s administrative processes (Strategic Goal 1 Objective 4)

GOAL 2 – INSTITUTIONAL/ADMINISTRATIVE SYSTEMS AND TECHNOLOGY – Improve and enhance systems and technology to support the operations of the District, promote efficiency and efficacy, and increase communications. (Strategic Goal #3, #4, #5)

- Objective 2.1 By 2022, enhance administrative systems to improve support services to employees. [intended for HR/Payroll] (Strategic Goal 3 Objective 4) (Strategic Goal 4 Objective 1)
- Objective 2.2. By 2025, enhance fiscal and business operations. [business services and purchasing] (Strategic Goal 3 Objective 4)
- Objective 2.3 By 2022, implement technologies for timely communication with the college community. (Strategic Goal 5, Objective 2)
- Objective 2.4. By 2025, implement the use of business intelligence tools to support decision making and strategic planning accurately and timely. (Strategic Goal 5 Objective 4)

GOAL 3 – TECHNOLOGY INFRASTRUCTURE – Provide a technology infrastructure integrating innovative and state-of-the-art systems and technology that are flexible, scalable, available, adaptable, and accessible. (Strategic Goal #2, #3)

- Objective 3.1. By 2021, implement a robust, flexible, and scalable wired and wireless technology infrastructure in all learning and operational spaces across the District. (Strategic Goal 2 Objective 1, 6)
- Objective 3.2. By 2025, adopt cloud technology on applicable systems as an extension of the College's technology infrastructure to ensure continuity of critical services. (Strategic Goal 3 Objective 4)
- Objective 3.3. By 2025, stabilize the replacement of computers, network equipment, and other technology equipment following a periodic cycle to maintain currency. (Strategic Goal 3 Objective 3)

- Objective 3.4. By 2022, implement virtual technology on both desktops and infrastructure for enhancing efficiency and for promoting sustainability. (Strategic Goal 3 Objective 3)
- Objective 3.5 By 2021, Restructure Active Directory (AD) and implement programs to model the district organization structure and security. (Strategic Goal 3 Objective 4)

GOAL 4 – INFORMATION SECURITY – Provide an environment balancing the availability of information with securing the sensitive and confidential information of all stakeholders. (Strategic Goal #3)

- Objective 4.1 By 2020, create a comprehensive information system security plan. (Strategic Goal 3, Objective 3 and 4)
- Objective 4.2 By 2020, implement best practices in higher education information security in all major District-wide information systems and technologies such as student information system, finance and accounting system, HR and payroll systems, room management, content management system, course management system, and electronic mail system. (Strategic Goal 3, Objective 3 and 4)
- Objective 4.3. By 2020, implement a District-wide information security awareness program for all students and employees. (Strategic Goal 3, Objective 3 and 4)
- Objective 4.4. By 2022, implement a single credential to access all major information systems and other major technology services. (Strategic Goal 3, Objective 3 and 4)