A. Instructional Technology

#	Initiative	Description	Importance	What Has Been Done So Far	Potential Obstacles/Notes	Status Report
1	Explore Simple Instructional Technology Options	Form a subcommittee, initiate ongoing dialog with faculty, staff, and administrators from various disciplines, including community education, ESL, SAS, ECE, EOPS and other equity impacted groups, to search for, purchase, and implement appropriate technology (applications and hardware) for enhancing and simplifying teaching and learning.	Technology is sometimes too complicated for some of our college community. As an equity-minded college, we need to continuously address the needs of particular demographic groups within our college.	Due to COVID-19, awareness of the need for simple technological solutions is becoming apparent.		This has not ocurred.
2	Emergency Remote Teaching Plan and Solutions	Develop list of available equipment for check-out during remote instruction. Quick and easy request form pertaining to equipment for remote instruction. Guide to digital versions of classroom activities and assignments.	The college should be prepared to quickly pivot to remote learning in the case of an emergency. In some cases, training designed for DE is not readily available or helpful for remote teaching.			This has not been distributed to faculty and staff, if it exists. The help desk ticket center works well but most people don't know about it. There is no physical help desk. This is a major need for the future LRC. As for tech and future-proofing, see initiative 9 for update.
3	Pedagogical Technology Training	Explore innovative delivery methods of training for faculty in use of digital tools and solutions. This training would include varied uses of these tools in and out of the classroom for a variety of disciplines.	Faculty and staff need pedagogically relevant training in use of available tools.	IT has done Brown Bag Lunches, but attendance has been reportedly low.		Pro-learning and department meetings are places where faculty share skills and solutions. **Ask Patrick?**
4	Faculty-Led Instruction on Digital Tools	Flex time orientations demonstrating digital tools for teaching in and out of physical classroom.	Communication with faculty about available programs and services will aid with instruction.			? Talk to DEC. We have this in flex sessions. Need ongoing training.

5	Access to Electrical Outlets and Charging Stations	Electrical outlets with USB plugs should be installed in classrooms and common spaces. Charging stations should also be installed.	College users rely on personal devices for study and work. Classrooms and common areas need access to outlets near desks and tables and places to charge their devices.	Some newer buildings have floor outlets installed below student desks.	Note: Need to make sure this is included in new LRC building.	There is a charging station in PV4 (Reading Writing Lab), but it is limited to multiple USB and cords. USB ports next to AC outlets would be better. Users should bring their own cable. Common area locations for this technology would be better than classroom table locations for maximum flexibility, security, and to avoid interfering with teaching and learning.
6	Website Communication	Active "master calendar." Better search function within college website.	Searching and navigating the website should be user-friendly; master calendar should be kept current and prominently displayed.	Ongoing effort to improve website is admirable.		Master Calendar on homepage is helpful, but does not include faculty dates (grades due).
7	Information Monitors in All Building Lobbies and Common Areas	Display current campus information, emergency alerts, and upcoming events; updated daily.	Current communication is overly dependent on email. Often people do not see the email until just prior to or after an event. Displays around campus would be clearly visible to people with up-to-date events/ emergencies.	Some areas already have information monitors, such as the counseling area.		Monitors have been placed in AC quad, student services, and IVC bus stop, Building 27, and Miwok Center. They are not yet being utilized with daily updates or other important information.
8	Improve Wireless printing	Print Control System for wireless, cloud-based access at printing stations at convenient locations throughout campus.	Improve printing efficiency and reliability on campus for users.	IT Department has selected Papercut* printing system that allows for wireless printing.	Include faculty and staff input on selection of Papercut.	Papercut works well in labs, but sometimes stops working at random and there is no apparent solution.

9	Continue to Upgrade Classroom Technology to Current Standards	A replacement schedule should be enhanced to include projectors, along with computers and control systems that need to be replaced due to age, functionality, and where current technology can no longer be supported.	Need to improve brightness and image resolution to enhance teaching experience. Not all current equipment is high resolution. Brighter projectors will make viewing easier for students to see details without dimming of lights. Reliability issues can arise with older equipment leading to classroom interruptions.	Equipment had been upgraded in some lecture rooms.		Nothing has changed regarding replacement schedule of projectors, etc. 3 rooms in Fine Arts will soon be upgraded. Otherwise, the shutdown due to the pandemic has delayed progress in this area. However, looking forward, COM is going above and beyond and is adding technology to broaden course delivery capabilities. Andy Haber is working on installing Pan Tilt Zoom (PTZ) remote tracking cameras in classrooms for simultanous multiple modes of instruction; AC245 and 255, plan is to set up remote teaching capability. TV will be on back wall of room.
10	Classroom Equipment Documentation	Provide classrooms with easy-to-locate and easy-to-read instructions on proper use and features of equipment e.g. a) quick fix trouble shooting; b) available features, such as video mute and displaying personal device.	To make end user more self-reliant; reduce downtime, and to enhance the teaching experience.	There are instructions in most rooms.		All instructions for classroom equipment seem to have disappeared. These should be reprinted and replaced.

B. User Systems, Support, and Training

#	Initiative	Description	Importance	What Has Been Done So Far	Potential Obstacles/Notes	Status Report
1.	In-Person IT Help Desk with Multiple Modalities of Service	A highly visible, hands-on, can-do help desk located in or near the libraries with consistent day and evening hours for credit, non-credit, and Community Education students, faculty, and staff. Troubleshoots Wi-Fi, printing, copying, computers, Canvas, MyCOM, etc. Should include face-to-face, online chat, telephone, and Zoom modalities. Possibly staffed by IT with assistance from student workers. Special hours and support for Spanish speakers and other language groups, ESL students, and Community Education students. Referrals for more help to IT staff, Enrollment, SAS, Library, Distance Education, etc.	COM constituents have called for such a Help Desk, including SAS, DE, Library, EOPS, ASCOM, ESL, Community Education, and individual students. An IT Help Desk with a variety of modalities of service will help to close equity gaps because historically underserved populations often need this assistance the most. For example, face-to-face and Zoom modalities are necessary when students lack vocabulary for explaining issues.	The IT Department has a successful online help desk for staff, faculty, and students. It has expanded during Shelter-In-Place to include Community Ed, Online Writing Center, Planning, Research and Institutional Effectiveness, Enrollment Services, and Student Activities. In addition, it has tried to create an in-person IT Help Desk, but the remodeling of the STEM Center took away a possible location. IT has had a student worker on a temporary Help Desk in the Library at the beginning of the semester for two semesters in the past. IT has worked with Library to create a few "Genius Bar" sessions at the beginnings of semesters	Lack of funding and staffing. Contractual limitations on use of student workers. Contractual limitations on working after 5:00 PM. Inter-related nature of technological issues (Examples: COM's ability to help with home Internet provider issues is limited and personal devices)	1. COM Welcome Center opened Fall 2022; Student Success Coordinator position added. 2. In-person registration workshops to support ESL and ESLN students to apply to COM, navigate MyCOM and register for courses. 3. To integrate an AI virtual assistant to the COM site and MyCOM app is being explored by IT. A concept presentation was presented to the Board of Trustees by Patrick E in 2022.
2.	Increased Mobile-Friendly Services	All or most of our services need to be mobile-device friendly	A significant percentage of our students learn through their phones. 80% of credit and non-credit students access Canvas using a smart phone. Of these, nearly 40% use their phones to complete activities such as assignments and quizzes, and 60% read their class materials on their phone (Survey, Spring 2018, Distance Education Committee).	Canvas and Office are already mobile-friendly	Our website requires an update of the code to perform more mobile-friendly appearances	
3.	Collegewide Off-Campus Student Accessibility Survey Plan	Create a plan to survey all of our students, including students in credit, non-credit and Community Education courses, to learn how they access information off campus, including types of devices, wi-fi, printing. Disaggregate data to identify equity gaps	Equity issue. Over 50% of credit and non-credit students use the college's computers, which leads us to believe that their access to wi-fi, laptops, printing, desktop computers at home is in some cases limited and that mobile devices are the primary access for many students (Survey, Spring 2018, Distance Education Committee).	Surveys have been conducted in the past.		
4.	Explore Alternatives to Current Wifi Set-Up and/or Address User Frustration with Current Wifi Set-Up	Wifi is often easy to set up, but it is also difficult for many to set up and difficult to renew	The Library, Distance Education, SAS, and ASCOM have identified wifi set-up as a barrier to accessing wi-fi at COM. This is an equity issue because it disproportionately impacts historically underserved populations such as ESL, low-income, students with disabilities and other users affected by the digital divide. Some students indicate that they do not use COM wifi because they don't know how to set it up or renew	Librarians, DE, and SAS have served as tech support for wifi set-up, but this model is not sustainable. "Genius Bar" and student worker support from IT during beginning of semester. Ongoing explanations and troubleshooting provided by IT Department.	Legal issues: the college is required to provide robust cybersecurity. There are legal and financial considerations. The college is required to provide robust cyber security. Switching to another set-up product would cost a great deal. CCC Chancellor's office has not adopted a statewide standard for 2-factor authentication, making things difficult for colleges	
5.	Continued Canvas and Zoom Training and Support for Faculty	Continue to offer faculty training and support for using Canvas and Zoom	During Spring 2020, 39% of credit and non-credit students experienced a transition from face-to-face instruction to online instruction that went poorly or somewhat poorly. Students reported that instructor unfamiliarity with technology was the most prevalent major challenge. (COM Student Remote Instruction Survey Results Spring 2020) Over half of credit and non-credit faculty identified the need for more training (COM Faculty Remote Instruction Survey Results Spring 2020)	Distance Education has worked tirelessly to provide both intensive training to every faculty member during Summer, 2020, as well as supplemental workshops, such as "Boom Your Zoom," "VoiceThread," and "FlipGrid."	Barrier: Faculty adoption	1. Online Teaching and Design (OTD) course for faculty during COVID beginning Summer 2020. Over 300 faculty completed. 2. Faculty offered opportunity to attend CVC-OEI Online Teaching Conference. 40 Faculty attended. Canvas training is offered during all Flex sessions and New faculty orientation. Meetings with the Instructional Designer are available weekly on Mon, Wed, and Thurs and by appointment https://gov.marin.edu/sites/gov/files/PLC%20Summary%20of%20Priorities%20and%20Activities.pdf https://ol.marin.edu/faculty-support
	Enhance Process for Adopting Software at COM	A process for adopting technology at COM needs a component for vetting software in terms of accessibility and student privacy	COM's improved focus on accessibility and student privacy requires a more formalized vetting process for acquiring software	This process has been in place in terms of accessibility since 2007. It is currently unenforced. Currently, IT Department asks faculty to check software for compliance with CCC guidelines.	Faculty are unfamiliar with requirements	

C. Administrative Computing and Communications

#	Initiative	Description	Importance	What Has Been Done So Far	Potential Obstacles/Notes	Status Report 2022-2203
1.	Enhance Device Borrowing Program	Expand borrowing program and describe the procedures to request technological devices for students, faculty, and staff.	COM community members need access to devices and they need to understand what devices are available to borrow and how the program works.	There is already a program in place. Students can self-request through COM Care, and staff and faculty can request through managers.		
2.	Banner* SSB Upgrades to Banner 9 Self-Service	Functionalities in Banner SSB will be upgraded to Banner 9 Self Service, which will impact employee self-service, faculty self-service, student registration, and fiscal services. Follow-up Training is also a priority for this initiative. Set up a reaction group to react to the nuances related to the implementation of Banner 9 for fall registration.	Information Technology (IT) Department priority, referenced in the IT Operational Guidelines, 2020.	Ongoing Key users have been informed about the upgrades. Training yet to come.		Scheduled SSB upgrades and maintenance each semester. Schedules of SSB maintenance are published on MyCOM login page each semester. Present issue: lack of tech support from Ellucian. Certain customization in Banner may not be valid in Banner 9. Future opportunity: research other systems that can cater towards specialty functions, i.e. HR and fiscal services.
3.	Data Analytics	Develop strategic plan to identify and incorporate critical business applications and data visualization tools into the current business operation for informed decision making.	Identified in survey data as important and it would streamline processes at College. Called out in the Current State – Future State Analysis in the IT Operational Guidelines, 2020. The Internal Business Intelligence Services, including the key components, need strategic improvements.	The Institutional Data Team (IDT) put this item on the Fall 2020 agenda.	Budget constraint – funding and staffing to support the development of data analytics function.	Per PRIE: Patrick was on track to implement Ellicuan analytics, but the company has said it's not compatible with the current version of Banner, and they are working on a new version that won't be available for quite awhile. So, we are looking at an option to implement something like Tableau institution-wide. There isn't a timeline currently; it depends on what kind of deal the district can make with them.
4.	Network Security and Information Security	Support IT's cybersecurity initiative and recommend a campus-wide security audit to provide IT department with information to develop strategies to prevent threat and improve on monitoring and detection.	Identified in survey data as significant. Additionally, research is showing that cyber-threats are becoming more sophisticated and frequent, necessitating a stronger response and security. Identified as a threat in the IT Operational Guidelines.	This is ongoing and long-term. College has adopted KnowB4*, user web training module and Tenable* Network Scanning. Large-scale fraudulent student applications have been identified by Student Services (SS) Department. IT and SS have developed a few ways to screen out the fake accounts.	Some issues are happening at a state-level, e.g. fraudulent students accounts are related to CCCApply, which is outside of District's control.	
5.	Modernizing and Stream-lining Administrative and Communication Functions by Optimizing Existing Technological Tools	Administrative: implement software to facilitate e-signature routing to all departments, electronic timecards, etc. Communication: online Catalog, institutional-level survey tool, e.g. Qualtrics, for conducting surveys and course evaluations, etc. Establish procedures and guidelines for administering collegewide survey.	Identified as areas of opportunities from various department, committee, or user-group meetings. Implementing more timesaving measures such as electronic timecards and software to facilitate e-signatures across campus would allow for more time focused on essential job functions.	Leadership chose Laserfische* and adoption underway IT Department is actively implementing electronic document procedures and trainings	The eLumen* online Catalog 1st edition arrived on Campus in August 2020. Further build-out is underway. Survey management was added to IDT's Fall 2020 agenda.	The needs for workflow, digital forms, digital approval, and e-signature have been one of our primary focus. We have made progress implementation of various flows via Adobe Sign (Time Cards), EPAF (Banner approval), DocuSign, Drupal Forms. Considering current limitations, we are evaluating better and more integrated tools. A new Academic Website (academics.marin.edu) was developed with integration to ELumen curriculum catalog. Various surveys, such vaccination status, course evaluation, etc. We are currently working on using the Qualtrics platform to capture student experience. No procedures nor guidelines were developed. District-wide surveys are locked down and only authorized staff can initiate them.
6.	Website and Portal Accessibility	Improving the usability of COM website, portal, and develop a mobile app for COM Portal. Website, including all subpages, needs to be mobile-friendly and accessible.	Repeated throughout the multiple surveys conducted. Increase the viewing and navigating abilities of webpages for smart phones.	COM Portal App is on IT's agenda; delivery: 2021.		COM IT developed a new Drupal 8 website template. The work involved extensive collaboration with various UI (User Interface) design, programming, and accessibility experts. Our objectives include having a modern and mobile friendly website optimized for student use. From that template, we have created the Academics site (academics.marin.edu). The mobile app project was postponed but all our sites are designed to fit any screen size, and thereby are mobile friendly.

7.	Online Communication Function	Continue expanding Microsoft (MS) Teams* to all departments.	Staff group instant messaging system; sharing projects in virtual offices. MS Teams will enhance departmental communication, but it does not replace Zoom.	MS Teams has been installed in several offices and is available to everyone who want to adopt it. IT actively aiding in deployment and trainings.		
8.	Continue to Reduce Robocalls on College Phone Network	Ongoing research and tactics to reduce robocalls.	Improves work efficiency	This project is ongoing.		Blocking off a phone number does not work because as scammers use different phone numbers each time. Currently, there is no tatics to combat robo-calls

D. Technology Infrastructure

#	Initiative	Description	Importance	What Has Been Done So Far	Potential Obstacles/Notes	Status Report 2022-2203
1.	CENIC* CCC-2449 between Sites Circuit Upgrade to 10GB	The existing circuit between campuses is 1 GB; currently we frequently max out the pipe bandwidth with large data file moves	The pipe being full creates a host of problems included lost VoIP calls, slow access to online resources, and reduced internet speeds (intercampus).	Contact with CENIC regarding the circuit. Permits pending; expected installation will be in December 2020.		Complete, 10G between.
2.	CENIC CCC-1647 & CCC-1648 Uplinks Circuit Upgrade to 10GB	This will upgrade our circuit from 1 GB to 10 GB to the outside world creating better on and off campus online service experience.	Faster internet speeds and access to offsite services such as Office365	CENIC is working with us to help purchase the required new routers with grant money.	As of fall, 2020, funding is frozen at the Chancellor's office to fund.	Complete 10G to each site
3.	Firewall* Upgrade	The 10 GB service we are upgrading to will require a firewall upgrade. There is a special grant to help with the upgrade cost	Required to accept 10 Gig internet service, current router only accepts 1 Gig	CENIC is working with us to help purchase the required new routers with grant money.	As of fall, 2020, funding is frozen at the Chancellor's office to fund.	Installation scheduled Nov 10 2022.
4.	Fiber Optics* Expansion and Replacement	Many of our existing building-to-building and intra-building connections are made with fiber optics that have aged and cannot carry the extra bandwidth newer applications require	The speeds of the computers' connections in buildings with old fiber is limited. Also, as fiber ages, its ability to carry excess bandwidth is reduced	Plan submitted and approved; 50% complete by November 2020		Complete
5.	CAT6* Data Wiring Projects	There are several changes and moves that have not coincided with desired network wiring	Though wireless is convenient, it is not dependable like a wired connection. We maintain wired connections to ensure classroom and staff connections do not faulter.	Plan submitted and approved, 50% complete by November 2020		Complete
6.	Wireless Coverage Expansion and Ongoing Improvement	Expand and improve the wireless coverage to include missing zones and the parking lots	This is an equity issue because it disproportionately impacts historically underserved populations such as ESL, low-income, students with disabilities and other users affected by the digital divide. Students, Staff, and Faculty need to be able to access wireless from any location on both campuses	Plan submitted and approved, 50% complete by November 2020 Currently, WIFI is available in KTD Parking Lots 1 and 6. IVC parking lots P1, P2, P3, P4 complete in December 2020 This initiative is highly integrated with the wiring project above.	Explore potential of offering wifi service in parking lots during PG&E Public Safety Power Shutoffs.	Complete
7.	Security Camera System Deployment	The security cameras around the college are being standardized to a common model and to a centralized system for collection. Most cameras will be deployed in parking lots in accordance with Collective Bargaining Agreement	Request from the Campus police to help identify perpetrators on both campuses.	Installation 20% complete as of November 2020.	Note: In 2017, the Academic Senate and the United Professors of Marin (UPM) voiced privacy concerns about this project. A Memo of Understanding was negotiated was produced to provide limitations on camera placement, and on access and use of surveillance data Collective Bargaining Agreement 2017 - 2019 (See 17.1-8, pp. 120-124)	Phased approach, Phase 1 complete June 2022, Phase 2/3 underway together in Nov 2022 expect completion in Feb 2023
8.	SecureALL* Routing Layer 3 Conversion and Communication	Due to a network change between KTD and IVC the secure-all system will need to be redeployed on a campus per campus configuration.	The upgrade of the circuit between the colleges necessitates splitting the network from flat to layer 3	Project complete from a network standpoint, individual routers may need additional programming on an ad hoc basis. SecureALL IT and M&O teams have been made aware and are in communication.		Complete
9.	Cold Backup* for Data	Due to recent security advisories, we are moving to complete an offline cold backup	Data security is critical and legal to our institution. Cold backups and or offsite backups allow an extra level of security in case of a meltdown in the server room or ransomware attack.	Tapes ordered and received, setting up the rotation.		Offsite tapes complete, New IStorage system being implemented expected completion January 2023

10.	Telephone Hardware Replacement / Continuous Telephone System Upgrade	There is a project in place to upgrade some of the phone hardware selectively, the existing telephone system is moving from physical to virtual	The new VoIP* phones add capability requested by the user base, and old phones are starting to reach the end of their lifespans.	Project is ongoing with over 100 phones replaced.		Complete, all old phones gone.
11.	Windows Servers Upgrade to 2016 Version	The Window server environment is migrating to the most current version	Server security is critical to website hosting, internal information security, etc.	Servers that need upgrading are identified through a product called Tenable		Ongoing, very few servers left to upgrade (maybe 2)
12.	Elevator Calls to be Directed to PSAP* / E911* Database Update with AT&T and PBX*	Working with M&O to get all the POTS* lines for elevators captured and tested working with M&O. E911 system work ongoing	When stuck in an elevator, you need to be able to communicate to get help.	Complete; ongoing maintenance		Ongoing, exploring Cell location coverage, making sure MITEL system is up to current code.
13.	Area of Refuge Phone Replacement / Public Phone Replacement	Area of Refuge phones are being updated to VoIP, and the Public phones are being replaced with VoIP, both to save money and convenience.	Area of Refuge phones provide a method of contacting police in an urgent situation. The district can provide more Area of Refuge phones over VoIP than regular phones due to POTD line cost and maintenance.	Plan submitted and approved.		Complete
14.	Software Identification, Licensing, Standardization, and Classroom Location	While IT allocates software and does software licensing renewals, there is a need in OIM to develop a mechanism to centralize the information on which lab or classroom software is installed. IT needs information about software being taught two weeks prior to the start of the semester.	Students need to know what lab they can work on specific software in, and IT needs to be able to load and unload software on computers in a timely fashion with advanced warning	Need to start communication with OIM and ask faculty to submit software requests when submitting classes. OIM needs to communicate where the classes will be taught so software can be advertised to students. In addition to IT inventories of software, the Library has created this spreadsheet, which is updated as needed: Software on College of Marin Library Computers		No movement from OIM
15.	More Computer Labs and/or Better Utilization of Current Labs	Monitor utilization of computer labs; add more labs as needed; improve communication of current labs' hours, locations, and capabilities. Campus has seen increased needs from students to access computers on campus, where they can access certain software and do TBA lab hours. Communication on computer lab availability: install Room Calendar outside the computer labs to reflect real-time open lab hours for students to drop in. Also, post this real-time information online. Expectations and lab using rules are to be developed.	Student access to computers is essential for student success. A request from the surveys asked for more computer labs; temporary Library has significantly fewer student computers	There are numerous computer labs available students; In three years, new LRC will increase access to computer space		Met with OIM and Jonathan on 10/05/2022 1. identified VS-5 and PV 8 as candidates for Open Lab at KTD; possible Open Lab Bldg7/RM103 at IVC, which needs to be confirmed by Alina. 2. PV 8 will be wrapped into the new LRC building which will have capability to show real-time use outside the door 3. Jonathan mentioned the possibility of hiring two work-study students managing Open Labs (formatting chairs, and reset monitors) 4. Dream it: an app for students that they can check availabilities of real-time use and book a space when needed.
16.	Collaborate with Community Institutions to Address Digital Divide Issues	Work with Marin County organizations to address Digital Divide issues on such projects as "Wifi in the Canal," and wifi in Marin City. Consider using COM Foundation money for funding Canal Digital Equity Access Fund.	Equity Issue. Many historically underserved COM students live in areas with poor wifi service. The Canal Alliance has advocated for improved wifi service for 15 years.	We have engaged with the Canal project and expressed interest in communicating the project to the student populations	Staffing and budget limitations restrict the college's ability to engage in community collaboration.	COM's Director of Information Technology, Patrick Ekoue-totou, sits on the Marin Security and Privacy Council of Marin County, focusing on cyber security challenges county-wide.
17.	Employ Sustainable Practices	Continue to improve our commitment to employing sustainability principles in technology-related decisions, especially in terms of waste, recycling, and reuse.	State laws require careful disposal of e-waste. COM's Value Seven encourages sustainability across the college	The College is fulfilling requirements of state law for the disposal of e-waste.		