

III C. Technology Resources

Technology resources are used to support student learning programs and services and to improve institutional effectiveness. Technology planning is integrated with institutional planning.

Technology resources, now, more than ever, are critical to the delivery of quality instruction and the efficient functioning of all areas at LMC. Decisions related to purchases of hardware and software, and technology staffing changes, are made through cooperative efforts between academic and administrative departments, District Office IT (DOIT), and the Information Technology & Services Department (IT&S). These efforts include LMC's Program Review and Resource Allocation Processes that require cycles of planning, implementation and evaluation. Through these cycles and cooperative efforts, LMC's technology resources are maintained and supported at a level that allows for effective instruction and administrative function at the campus.

IT&S plays a significant role in all aspects of providing and supporting technology services at LMC, including Media Services, and, through cooperative efforts, works to achieve the following goals:

- Improve student learning, administrative effectiveness, and the overall functioning of the college through the effective support and the advancement of the use of technology;
- In conjunction with Professional Development Advisory Committee, develop and provide on-going and regular training opportunities for technology-related staff development for faculty, classified staff and managers;
- Through established college procedures (Program Review and Resource Allocation Process) and working with departments, plan for, implement, and evaluate upgrades in student and employee computers and software;
- Working with DOIT, maintain a robust network and server infrastructure to support college instructional and administrative needs;
- Provide a responsive Help Desk to provide timely and high-quality responses to user issues.

- 1. The institution assures that any technology support it provides is designed to meet the needs of learning, teaching, college-wide communications, research, and operational systems.**

Los Medanos College assures that technology support is designed to meet learning, teaching, college-wide communications, research, and operational systems through cooperative efforts between academic and administrative departments, District Office IT, and the Information Technology & Services Department. These efforts include LMC's Program Review and Resource Allocation Processes that require cycles of planning, implementation, and evaluation. Through these cycles and cooperative efforts, LMC's technology resources are maintained and supported at a level that allows for effective instruction and administrative function at the college.

The Shared Governance Council (SGC) charged the Technology Advisory Committee (TECHNOLOGY ADVISORY GROUP) with updating the Technology Plan for the College. TECHNOLOGY ADVISORY GROUP is a multi-constituency shared governance committee that is comprised of students, classified, faculty, and management. Before final approval, the updated Technology Plan (EVIDENCE: LMC Tech Plan 2012-2017) and newly developed Technology Grid (EVIDENCE: Technology Goals and Strategic Action Grid) went to each senate for feedback, then to the SGC for endorsement. These documents provide guidelines for network management, hardware and software standards, and LMC's computer replacement plan.

In addition to technology needs identified through TECHNOLOGY ADVISORY GROUP, individual departments participate in an annual Program Review update and a comprehensive review every five years. *“Program Review is a collaborative self-study completed by all instructional, student service, and administrative units/departments/programs at Los Medanos College. It is an opportunity to review, analyze, assess and plan for continuous improvement of our programs with respect to student learning outcomes, student achievement, and the overall student experience — all of which lead to student success. Program Review is an essential component of the process to demonstrate the continuous improvement and effectiveness of each program and the institution as a whole. Program Review integrates planning, implementation, assessment, and resource allocation.”* Funding proposals are then submitted through the Resource Allocation Process. These funding proposals are reviewed, ranked, and prioritized; however, due to the recent state financial situation LMC has not necessarily been able to fund all high priority requests. This process of the funding tied to Program Review requires cycles of planning, implementation and evaluation.

- a. Technology services, professional support, facilities, hardware, and software are designed to enhance the operation and effectiveness of the institution.**

Descriptive Summary

Technology plays an important part in academic, student services and administrative areas and is effectively used at LMC to enhance student learning and provide efficient operations at both the Pittsburg campus and Brentwood Center. (EVIDENCE: AnnualStudentSatisfactionSurveyLMC2013) IT&S takes a lead in all aspects of technology and works with the Technology Advisory Group, campus academic and administrative departments, DOIT, the Professional Development Advisory Committee (PDAC – a shared governance committee), outside vendors, and other constituencies to provide stable technology resources to support current and future technology needs in all areas of the college. Through a continuous and cooperative process of planning, implementation, and evaluation, IT&S works to ensure that the technology-related needs of the college are met.

Technology services

A wide variety of technology services are made available to both the Pittsburg and Brentwood locations through IT&S. These services include a student-staffed Help Desk, Media Services, computer installation, lab/computer-based classroom re-imaging, and centralized purchasing for software and hardware.

LMC's Help Desk is staffed by dedicated student employees during the library's normal operating hours. Help Desk staff take information regarding user issues from all technology areas – media requests, hardware and software issues, e-mail, online classes, etc. – and enter the relevant information into the District-provided ticketing system SysAid (EVIDENCE: District ticketing system <https://contracosta.sysaidit.com>). In addition, the SysAid ticketing system is available at all times to any LMC employee through a web-based interface that can be accessed using any Internet-connected computer, smart phone, or other device. Help Desk staff also have two-way radios that are used to communicate with IT&S staff in the case that immediate assistance is required in a classroom during instruction or during an event.

The Media Services branch of IT&S is responsible for assisting in the design of LMC's smart classrooms as well as maintenance of the smart classrooms. Smart classrooms have become a mainstay of instruction at LMC. Media Services works with the rest of IT&S and strives to keep all smart classrooms operating effectively at all times. In addition, Media Services is responsible for meeting an assortment of media needs, including assisting in the planning

and execution of campus events that require media equipment, the regular delivery of media equipment for instructional and administrative needs in rooms that are not currently smart classrooms and assuring the reliable operation of all media equipment.

Purchasing for all technology and media-related equipment and software has been centralized with IT&S. In 2009, SGC charged TECHNOLOGY ADVISORY GROUP with evaluating campus technology purchasing. As a result and as reported to the SGC on 4/13/11 (EVIDENCE: TAG Report to SGC 041311 C. Benzler) purchases are identified and prioritized in accordance with the Program Review findings, the Resource Allocation Process, the updated Technology Plan (EVIDENCE: LMC Tech Plan 2012-2017) and newly developed Technology Goals and Strategic Action Grid (EVIDENCE: Technology Goals and Strategic Action Grid). This process ensures purchases are made based on identified priorities and that the guidelines for network management, hardware and software standards are maintained and evaluated.

In addition, LMC, through the CCCCD, has established a software purchasing agreement with Microsoft (EVIDENCE: Microsoft Campus Agreement <http://www.microsoft.com/education/en-us/buy/Pages/licensingOption.aspx>) which allows IT&S to install several Microsoft products on all campus computers. Similar agreements maintained by the Foundation for California Community Colleges (FCCC) allow IT&S to purchase Adobe and other software packages at a significant savings compared to retail pricing. These agreements cover all computers at both locations. Currently, funding for LMC's Microsoft Campus Agreement is provided through the District. LMC's site license is for Microsoft Office Campus License Agreement with enhanced faculty/staff desktop bundle and enterprise CALS and DMOP. The annual cost for FY13-14 was \$34,452.50. (EVIDENCE: P0015417 to Computer Land – Silicon Valley)

Software on computers in student computer labs and computer-based classrooms is updated on a regular basis, with most updates occurring on an annual basis. This process is known as lab re-imaging – the software installed on computers in these areas includes a standard package of software (EVIDENCE: Lab Re-imaging v0) and additional software that is relevant to the instructional focus of the lab (EVIDENCE: Computer Labs Spreadsheet Spring 2014). A computer lab software reimaging schedule (EVIDENCE: Lab Reimage v0) has been developed and implemented. This reimaging schedule is posted on the LMC IT webpage for transparency. In addition to being posted on the webpage, emails are also sent to department chairs and

deans requesting information regarding plans for new/upgraded software and hardware for student labs the semester prior to their scheduled re-image. As the Lab Reimage document indicates, upgrading/new software must be a decision that is made with input from all areas that use a lab. To avoid miscommunication, all communications of the upgrade/new software must come for department chairs or their single designated contact person.

Software for administrative computers includes the standard package plus any software that is required for the specific functions performed by the primary user of the computer. In addition, administrative computers have access to the District's Enterprise Resource Planning (ERP) program, Colleague. Updates on administrative computers occur when the computer is upgraded or replaced or when a major upgrade of application software becomes available. (Lab Re-imaging v0)

Assistive software is planned and implemented by the alternative media specialist, who coordinates with IT&S to ensure that LMC's assistive software is current and is installed on as many student computers as is allowed by licensing. The specialist provides training and assistance to students in the areas of alternate media and assistive software. Section 508 compliance efforts are also led by this staff member.

Distance Education

Distance education is an integral part of LMC's offerings. Distance education promotes learner success through innovative, interactive teaching, learning and technology. LMC strives to provide access to quality online programs that meet the needs of a diverse population. To this end, curriculum offerings and student services are regularly addressed. Faculty and student training are also provided in an effective and consistent manner. In order to meet the needs of LMC's diverse community, including those who find it difficult or impossible to take face-to-face courses on campus, two departments within LMC (Computer Science and Travel Marketing) have provided the opportunity for their students to earn an AS degree and multiple certificates with 50 percent or more of the instruction occurring online. (LMC also has one Computer Science certificate that is approaching the 50 percent mark.) In addition, it is possible for students to complete 50 percent or more of their general education requirements online.

In 2011, the District-wide Learning Management Task Force (LMSTF) was charged with researching available learning management systems (LMS) and selecting a single system to be used at all locations across the District. LMSTF members included faculty, students, classified staff and managers from all three CCCCD campuses and the District Office. After requesting proposals through a public process, submittals were evaluated by the LMSTF. Seven proposals were evaluated. All members of the District were invited to attend presentations by the

vendors. At the end of the process, the LMSTF selected Desire2Learn (D2L) as the LMS for CCCCD. (LMSTF meeting minutes- Mike do you have these?)

After the selection of D2L as the LMS for the District, training for faculty was provided as described in section III.C.b. In addition, a process was developed to extract content from the Blackboard system and import that content into D2L. The process consisted of using Blackboard's batch export capability to pull content out of Blackboard. D2L's bulk import process was then used to load that content into D2L. Content was transferred for all Blackboard courses for spring, summer and fall semesters for the 2013 calendar year. The process was used to move content from Blackboard to D2L for selected classes that were not taught in the 2013 calendar year, but would be taught using D2L at some point in the future.

Professional support

In addition to the Help Desk described in the previous section, professional support for the campus is provided in the areas of technology training, college web-based application development, and user support by LMC IT&S and DOIT staff.

Training needs related to technology are determined using a District-wide survey that is administered annually by the CCCCD Professional Development Committee (District-wide surveys-Mary?). Results of the survey are reviewed by LMC's Professional Development Advisory Committee and technology-related professional development needs are identified and training opportunities are scheduled and provided. Training opportunities include sessions during Flex days, variable Flex sessions during the semester, on-site multi-session trainings (provided by both employees and vendors), off-site training provided by vendors and funding for conference and workshop attendance. (List of technology workshops M. Oleson)

District-provided applications such as Colleague (ERP system), InSite (District-wide communications portal) and e-mail are addressed by District IT staff. Issues with computers, printers, network and media equipment at the College and Brentwood Center are addressed by IT&S staff. Currently, IT&S support staff at LMC consists of two computer and network specialists, one electronics technician, a senior administrative assistant who is shared with the library, and 1/5th of a senior computer and network specialist who is housed at the District Office, and one web application specialist. Additional assistance is provided in LMC's megalab, business, and pTech computer labs and computer-based classrooms by two classified computer center technician IIs.

Facilities

Technology facilities at LMC include computer-based classrooms and labs, smart classrooms, program specific computer labs, servers, network and Internet connections.

Computer-based classrooms, computer labs and areas where student computers are available are all listed in the Computer Lab Spreadsheet [\(Computer Lab Spreadsheet Spring 2014\)](#). The spreadsheet indicates the location, number of student computers and the current software for the labs and classrooms, as well as other information related to the labs.

Numerous smart classrooms are available on both the Pittsburg and Brentwood campuses. Currently, there are 70 smart classrooms at the Pittsburg campus and 7 at the Brentwood Center. As indicated in the Technology Plan, additional classrooms will be converted to smart classrooms as funding becomes available. The standard equipment package for smart classrooms includes an LCD projector, computer workstation, DVD/VCR player combo, speakers, switching equipment, and a connection to the campus network and Internet. In addition to the smart classrooms with built-in equipment, several smart carts are available at both Pittsburg and Brentwood with laptops, LCD projectors and DVD/VCR player combinations. These mobile smart carts are delivered to classrooms and meeting rooms as needed.

The networks at both the Pittsburg campus and Brentwood Center have recently been upgraded through the bond-funded Infrastructure Upgrade Project (IUP) [\(CCCC-Final-Rpt-With Appendices District Technology Plan\)](#). This project, completed in early 2014, funded the upgrade of network switches, routers, wireless access points, and firewalls and added equipment and additional network cabling to support voice over IP (VoIP). In addition, the capacity of the link between the District Office and both Pittsburg campus and the Brentwood Center has been increased in order to better serve the administrative needs of both locations. The improvement to the capacity of the link to the Brentwood Center enables a higher level of service in areas such as counseling, transcript and record retrieval and storage, enrollment assistance, and budgeting at that location. The project included an equipment refresh component that will replace all network equipment seven years after installation. Through this project, it is expected that the network at both locations will be viable until at least 2024.

Servers are housed in both Pittsburg and Brentwood, with the main server

farm located in Pittsburg. A majority of Pittsburg's servers have been virtualized using VMware's ESX infrastructure, Dell servers and an EMC SAN. Servers provide services such as the college intranet, authentication, application serving, network file storage, print services, and backup. Services provided by LMC's servers support both instructional and administrative computing needs. In addition, the Pittsburg server farm hosts LMC's web site server and Blackboard – the online course server that was retired after fall semester 2013) The College goal is to refresh the server infrastructure on a seven-year cycle.

Hardware

Instructional computers are located in many computer-based classrooms and labs, smart classrooms, and several other locations – for example, the Honor's Center and MESA -- at both locations. Computers for student use are available during the normal operating hours of the locations housing the computers [\(Computer Labs Spreadsheet Spring 2014\)](#) All campus instructional computers have a standard set of software installed which includes the Microsoft Office Suite, Internet Explorer and Firefox web browsers, various add-ons (Silverlight, Acrobat Reader, Flash player, etc., Symantec End-point protection (anti-virus, network protection, etc.), and Faronics Deep Freeze (currently installed on instructional computers only) [\(Lab Re-image v0\)](#) [\(Computer Labs Spreadsheet Spring 2014\)](#) Additional instructional software is installed in specific computer labs to support the needs of the instruction supported by the lab. All software is installed under the terms that are specified in the software licensing documentation. The goal at LMC is to refresh instructional computer hardware on a cycle with a maximum of five years.

All full-time faculty are provided a desktop computer in their office. There are also several computers provided in shared offices for part-time faculty in buildings at both locations. As with instructional computers, faculty computers have a standard set of software installed when delivered which includes the Microsoft Office Suite, Internet Explorer and Firefox web browsers, various add-ons (Silverlight, Acrobat Reader, Flash player, etc., Symantec End-point protection (anti-virus, network protection, etc.). [\(Lab Re-image v0\)](#) [\(Computer Labs Spreadsheet Spring 2014\)](#) Other CCCC owned software can be installed on faculty computers as needed, if done so under the licensing agreements for the software packages. As with instructional computers, there is a goal of refreshing faculty computer hardware on a five-year cycle.

Administrative computers are supplied at all workstations that are used by

administrative personnel. Similar to other groups of computers on campus, administrative computers have the standard set of software installed when delivered which includes Microsoft Office Suite, Internet Explorer and Firefox web browsers, various add-ons (Silverlight, Acrobat Reader, Flash player, etc.), Symantec End-point protection (anti-virus, network protection, etc.) and Colleague enterprise resource planning (ERP) system. Other CCCCD owned software can be installed on administrative computers as needed if done so under the licensing agreements for the software packages. Again, there is a goal of refreshing administrative computer hardware on a five-year cycle; however, due to recent state budget shortfalls, the College has not been able to accomplish this goal.

As computers are replaced and deemed as insufficient for use in one area, they are “retired” from that area and re-purposed to another area until they are not repairable or deemed unusable. As an example, a computer that has been replaced in an administrative area may be re-purposed as a check-in kiosk or print release station for the pay-for-print system. Re-purposing decisions are made by IT&S with input from departments that are retiring the computers or that have need for older equipment.

Software

As noted in the above sections, each computer at LMC’s campuses is loaded with a standard set of software. This software consists of the Microsoft Office Suite, Internet Explorer and Firefox web browsers, various add-ons (Silverlight, Acrobat Reader, Flash player, etc.), and Symantec End-point protection (anti-virus, network protection, etc.). Historically, software required to support instructional programs has been purchased by the instructional department with the need.

All current CCCCD employees and students have access to information through the District-provided InSite portal and the WebAdvisor web-based application. Both InSite and WebAdvisor are integrated with CCCCD’s Colleague enterprise resource planning (ERP) system. Colleague is used as a repository and reporting tool for academic and administrative information for the colleges. Colleague’s SQL Reporting Services is used to deliver standard and customized reports in support of the College.

Licensing for several Microsoft products is provided through LMC’s campus agreement that is purchased through the Foundation for California Community Colleges. Funding for LMC’s agreement and Symantec End-point software is through CCCCD. IT&S strives to maintain licensing documentation

for all software installed on computers at both the Pittsburg and Brentwood campuses. IT&S staff members have been specifically instructed to install only software that has been licensed to LMC or CCCCD on college computers.

Communication

An e-mail account is available to all full and part-time faculty, full-time classified staff, managers, and to part-time classified staff upon request of their supervisors. Starting in 2012 and completed in early 2013, LMC and CCCCD moved from self-hosted Exchange servers to cloud-based e-mail provided by Microsoft's Live@edu. CCCCD-provided e-mail can be accessed from any Internet-connected computer and many other devices, such as smart phones.

Since 2011, all enrolled students are given access to CCCCD provided e-mail (InSite e-mail) through the InSite portal. Students are informed of their CCCCD e-mail address shortly after their submission of an application to any of the CCCCD colleges. Student e-mail is one of the primary modes of communication among students and instructors, the College and the District. Student e-mail can be accessed from any Internet-connected computer and many other devices, such as smart phones. Messages can be sent to everyone at a campus, the entire District, or to specific groups of students within a college. Students can forward their InSite e-mail to another e-mail address that they check on a regular basis.

CCCCD's InSite portal is an important tool for communication between LMC/CCCCD and students and employees. The landing page for each user has targeted and timely information is provided that is determined by the user's location (college) and constituency (student, faculty, classified employee, etc.). Through InSite, students can access their unofficial transcripts, register and pay for courses, check account balances, purchase parking permits, and many other functions. Instructors enter student grades, check rosters, and access other information through InSite/WebAdvisor. All CCCCD employees can access parts of their personal information to examine information, such as their leave balances and electronic W2 forms.

InSite can also be used for communication to and from campus or District committees and allows for sharing of documents and other information based on membership in groups. As an example, active committee members can be allowed to post and edit documents in a collaborative manner, while general

college community members can be given the ability only to read these documents.

LMC's website (www.losmedanos.edu) provides a wealth of information for students (both current and perspective), employees, and the general public. The site provides vital information regarding class cancellations, access routes for areas of the campus that are affected by construction projects, and important dates such as registration, class add and drop deadlines, and graduation. The main pages of LMC's website are maintained by the Marketing Department, while the content for pages in each instructional, student services or support area is maintained by designated members from those areas.

Self Evaluation

The Standard has been met – the College offers quality technology support services. IT&S strives to meet the technology needs identified through SGC, TECHNOLOGY ADVISORY GROUP, Program Review, RAP, LMC's Technology Plan and the Technology Grid. However, due to the state financial situation, it has been a struggle to maintain adequate personnel and financial resources to ensure the continued provision of quality technology support for the expanding technology needs of the college. Support in meeting the technology needs of LMC is also supplied by Media Services, Marketing/Web Administration, and distance education.

Use of technology has continued to increase, as have requests for support, while due to the state budget shortfall the staffing to support technology has been reduced. From 2003 to 2007, 2 FTE were cut from IT&S, with 1 FTE being restored fall 2007. In 2010 IT staffing was reduced by 1.5 FTE. In 2011 IT lost another .5 FTE, Media Services was reduced by 1 FTE and the senior web administrator's position was furloughed for one month annually. Staffing in other support service departments was also reduced at that time. During the past few years, new processes (lab re-imaging process, centralized and streamlined purchasing process, automation of some software deployment, etc.) have been developed, implemented and evaluated in an effort to help IT&S in its endeavor to maintain service levels. As funding from the state stabilizes, the College must find a solution to enable technology services to continue to provide professional support to facilities, hardware, and software in the future.

During the fall of 2005, a Desktop Computer Replacement was developed

and approved. This plan called for a four-year cycle of replacement for all desktops. Due to state budget shortfalls, the College was not able to meet this financial liability. In fall 2013, recognizing the importance and necessity for refreshing technology, discussion began on the upgrade of all instructional computers. This project has been initiated with an anticipated completion date of summer 2014. With state funding improving, the College will continue with the annual implementation of the computer renovation plan.

In order to better facilitate the lab reimage process, LMC has initiated a lab reimage process to provide guidelines for the timely updating and/or installation of software and hardware in labs at LMC's Pittsburg and Brentwood locations. The lab reimage process is integrated with PR and RAP timelines. The process includes communication, scheduling, installation/ execution and testing of new software. It begins with RAP proposals submitted in February and ends with re-imaging during Winter Break in January or in August prior to start of Flex week. Due to staffing limitations, labs are re-imaged at most annually to be ready for either fall or spring semester. (Lab Re-imaging v0).

Actionable Improvement Plan

None.

b. The institution provides quality training in the effective application of its information technology to students and personnel.

Descriptive Summary

Students

Historically, technology training for students has been provided primarily through course work delivered by the Computer Science and Business departments. In addition to computer application course work, students receive training in program specific computer-assisted instructional labs which are located in Math, English, ESL, Biology, MESA, Music, ETEC, PTEC and Brentwood (Computer Labs Spreadsheet Spring 2014). The College has combined a student computer area in the library with Disabled Students Programs and Services (DSPS) in order to provide increased access and support. (Library Hours webpage: <http://www.losmedanos.edu/library/>) The alternative media specialist provides individualized hardware and software training. LMC also offers a Learning Skills course which covers adaptive software and basic computer skills in depth (DSPS Courses and Syllabi webpage:

<http://www.losmedanos.edu/dsps/coursessyllabi.asp>

Distance education is another integral part of LMC's student education services. Distance education promotes learner success through innovative, interactive teaching, learning and technology. LMC strives to provide access to quality online programs that meet the needs of a diverse population. To this end, curriculum and student services components are regularly addressed. Faculty and student training is also provided in an effective and consistent manner. In order to meet the needs of the community, including those who find it difficult or impossible to take face-to-face courses on campus, two departments within LMC (Computer Science and Travel Marketing) have provided the opportunity for their students to earn an AS degree and multiple certificates with 50 percent or more of the instruction occurring online. (LMC also has one Computer Science certificate that is approaching the 50 percent mark.) In addition, it is possible for students to complete 50 percent or more of their general education requirements online.

Specific support services for online (and other) students are described below:

The Counseling Department offers an e-advising link, with remote access to the following services:

- Information regarding LMC classes, programs and services
- Transferability and articulation agreements for LMC courses
- General academic advisement
 - Prerequisites, co-requisites, and course content
 - General education options
 - Referrals to campus and community resources
 - College procedures and academic policies
 - Admissions and registration information

Students who use the e-advising link can expect a response within three business days. The link: <http://www.losmedanos.edu/student-services/counseling/online.asp>
(Los Medanos College Substantive Change Proposal)

Personnel

Improved training for technology was identified as a recommendation during the 2008 accrediting team visit. As part of the response, the Shared Governance Council authorized the creation of a Professional Development Task Force to make recommendations for a Professional Development Program on campus. In May 2009 a comprehensive report entitled "Recommendations for a Professional Development Program at LMC" was submitted to the SGC. (Final Report to SGC 05-01-09) This report

recommended that a shared governance Professional Development Advisory Committee be established to oversee and coordinate LMC's Professional Development Program. The SGC approved the development of the Professional Development Advisory Committee (PDAC) as a central coordinating group for all staff development at LMC ([Recommendation B](#)). PDAC is one of the most active shared governance committees on campus and comprised of faculty, classified staff, managers and students.

In order to determine the needs for technology training, the District-wide Professional Development Committee administers an annual survey to identify training needs. The LMC PDAC Technology Subcommittee has taken this district-wide survey information and administered local surveys using Survey Monkey ([Survey Results from Mary-Still need this!!](#)) in order to specially target College user needs. In addition to these surveys, the PDAC Technology Subcommittee also uses evaluations conducted as follow-up to professional development activities to plan, design and make recommendations to PDAC for future technology-related professional development activities for LMC's employees. Helpdesk calls are also evaluated to assist in determining staff training needs. In this manner, the College is responding to identified technology-related training needs by offering targeted workshops and drop-in labs designed to meet the needs of the end user. A list of on-going training offerings can be found at: <https://insite.4cd.edu/webapps/staffdevelopment/WorkshopEnrollment/Default.aspx?campus=lmc>

Training workshops are provided to all staff when new software is implemented – an example of this occurred when LMC transitioned from client based Outlook software to the new Office 365 Outlook email. Multiple trainings were presented by LMC's technology systems manager and the District's network technology manager on how the transition would be implemented, changes that would come with implementation and instruction on its use.

Training opportunities include sessions during Flex days, variable Flex sessions during the semester, on-site multi-session trainings (provided by both employees and vendors), off-site training provided by vendors, and funding for conference and workshop attendance. ([List of Technology Workshops](#))

Recent training efforts that have been identified and resulted in organized technology-related professional development efforts include:

- Flex trainings: The CCCCD Flex enrollment site
<https://insite.4cd.edu/webapps/staffdevelopmentWorkshopEnrollment/Default.aspx?campus=lmc>)
 - Development of Section 508 compatible curriculum
 - Use of Web 2.0 tools in online instruction
 - Computer security best practices
 - Instruction in the use of LMC's smart classroom technology
 - Microsoft PowerPoint 2010
- Training on CCCCD's new LMS, D2L. LMC has devoted a 25 percent faculty release time for a D2L Coordinator, an additional 25 percent faculty release time for Distance Education Committee Chair, and additional funding for increased D2L training workshops.
 (Planning for D2L Transition)
 - Flex workshops
 - Development and delivery of a complete training series to support instructors using the new LMS, development and delivery of a complete training series to support instructors using the new LMC, whether they are utilizing fully online instruction, hybrid instruction, advanced supplementation of face-to-face instructions, or basic supplementation of face-to-face instructions. Skype is also an option if faculty would like to schedule a one hour session online with the D2L trainer.
 (D2L Trainings S. Jones)
- Variable Flex trainings
 - Microsoft Word 2010
 - Microsoft Excel 2010
 - Microsoft Outlook 2010
 - CCCCD's new e-mail system
 - LMC's new network file storage system
 - EduStream
- Vendor-provided off-campus training
 - Two-day workshop on Microsoft Excel 2010
- Funding for conferences

Quality training also has been an integral tool as CCCCD transitions to a new district-wide learning management system (LMS), Desire2Learn (D2L). A kickoff meeting was held at LMC in October, 2012, to plan for and begin the development and implementation of training on D2L. (D2L trainers kickoff meeting 10-17-12) A Resource Allocation Process request was made to support the transition to D2L and approved -- the funding is being utilized to implement a temporary plan for 2013-14 transition support. The funding is supporting the faculty release time for a D2L Coordinator, the

faculty release time for the Distance Education Committee, and increased training workshops. (Planning for D2L Transition) (D2L Trainings S. Jones)

PDAC has the responsibility of assessing employee development workshops and training, including technology related workshops and training. Assessment is done through the use of a standardized evaluation tool administered immediately after each workshop or training session. The results from the district-wide survey, local surveys and training evaluations are also used to determine the quality of training, materials used and if there is need for additional follow-up training.

Self Evaluation

The standard has been met. Professional development is a critical element in the effective delivery of instruction using technology and the functioning of administrative services in both Pittsburg and Brentwood. Professional development needs in all areas related to technology are assessed; then training is planned and delivered. As stated on LMC's professional development homepage: "The purpose of LMC's Professional Development is to *strengthen and support* a dynamic learning environment that promotes and enhances the personal, professional and organizational development for all staff."

The Office of College Advancement coordinates professional development activities and assists in the planning, implementation and evaluation of related activities, which include Flex activities, technology training workshops, conferences, seminars, and other professional enrichment opportunities. The office also serves as a link to District-level staff development programs. (<https://insite.4cd.edu/org/dwco/dst/staffdev/default.aspx>).

In addition, PDAC and its subcommittees, which include the Technology Subcommittee, meet once a month to review information collected about professional development needs. Assessment of training needs related to technology is determined by use of the following techniques:

- Results gleaned from the annual survey administered by the District-wide Professional Development Committee.
- Local surveys administered to specifically target user needs
- Follow-up evaluations to professional development activities

Use of these assessment tools ensures that the PDAC Technology Subcommittee makes relevant and timely recommendations to PDAC for future technology-related professional development activities at LMC.

All of the recommendations which were included in the report “Recommendations for a Professional Development Program” (Final Report to SGC 05-01-09) in 2009 regarding the structure, staffing, and instructional technology training have not been fully implemented due to funding constraints. However, LMC has made great strides in the right direction, as evidenced by the college’s recent approval of the RAP request to support LMC’s transition to D2L. (Planning for D2L Transition) As funding becomes available, technology related professional development, as well as instructional technology development, will remain high in College priorities. LMC recognizes the need and is currently actively seeking alternative funding sources. (PDAC Minutes of 9-26-13 announcing TitleV coop grant with DVC)

Actionable Improvement Plan

None.

a. The institution systematically plans, acquires, maintains, and upgrades or replaces technology infrastructure and equipment to meet institutional needs.

The Information Technology & Services Department, working in conjunction with campus shared governance committees – Shared Governance Council (SGC) and the Technology Advisory Group (TECHNOLOGY ADVISORY GROUP)) and the District IT department (DOIT) – advises the College on acquiring, purchasing, upgrading, and replacement of technology infrastructure equipment. Current IT&S staffing to perform the duties required for this standard consists of one manager, one senior computer and network specialist, two computer and network specialists, one electronics technician, and a half-time senior administrative assistant.

A plan (LMC Technology Renovation Plan 012714) for refreshing instructional and administrative technology infrastructure (instructional and administrative computers, smart classroom equipment, printers, etc.) has been developed and is in the process of being implemented. This refresh plan identifies groups of computers based on the age of equipment and slates them for replacement on a five-year cycle. Funding for the current Technology Renovation Plan is provided through redevelopment funds. Windows-based computers are purchased with a five-year warranty that guarantees that computers in a specific area can be maintained for their projected life cycle. Apple computers are purchased with three-year AppleCare agreements (the longest offered by Apple) and repairs to Apple computers are made by IT&S or authorized repair providers after the warranty period expires.

Software updates/upgrades for computers in instructional classrooms and labs are performed on an annual basis ([Lab Re-imaging v0](#)). During this update process, the currently supported operating system (Windows 7) is installed on all computers that will support the operating system. Updates to the Microsoft Office Suite, web browsers, add-ons and instructional software (if available) are made as well. Additional software identified and funded through RAP are installed at this time. Minor updates for web browsers and add-ons are performed on an as needed basis in instructional classrooms and labs to support instruction.

Software updates/upgrades for administrative computers are performed during computer replacement or on an as-needed basis to support the administrative needs of the campus.

Needs for acquiring new technology equipment not covered in the refresh plan are identified through the Program Review process. Funding requests for this additional equipment are made during RAP. The SGC uses information developed through the Program Review and RAP to allocate available funds for the acquisition of new technology infrastructure equipment. ([RAP Update on 2013-14 Funding Memo to Campus Community_5-24-13](#))

The network and telecom infrastructure (switches, routers, firewalls, wireless system and telephone system) at LMC's Pittsburg and Brentwood locations was recently updated under a District-wide Infrastructure Upgrade Project (IUP) ([CCCC-Final-Rpt-With Appendices District Technology Plan](#)). This equipment update was funded through bond revenues and was planned, District-wide, by a task force that included faculty, classified staff, and management from all District colleges and the District Office. The IUP has replaced all network and telecom infrastructure as well as the current telephone system with a Voice over IP (VoIP) system that is integrated throughout the District. The project calls for a refresh of equipment after a seven years (currently scheduled for 2020) that will ensure that network and telecom equipment will be adequate for the college's needs until at least 2025.

From 2002 through spring semester of 2013, the college used Blackboard as its learning management system (LMS). During that time, LMC's Blackboard system was managed by either an instructor on release time or IT&S. In 2011, a District-wide task force was formed ([LMS Task Force Charge v2](#)) and tasked with identifying and implementing a single LMS for all colleges in the District. The task force included faculty, classified staff, and management from all colleges in the District and management from the District Office. Based on the recommendation of the LMS Task Force ([Learning Management System Recommendation](#)), Desire2Learn (D2L) was selected as the LMS to be used across the District. At LMC, partial implementation of D2L started with the summer semester of 2013 with a de-commissioning of the

Blackboard system and full implementation of D2L in spring, 2014. D2L is maintained by the DOIT, with local support at LMC provided by faculty on release time and IT&S.

The maintenance of technology infrastructure equipment is performed by IT&S and DOIT. IT&S is responsible for the maintenance all non-network equipment on campus. IT&S responsibility includes instructional and non-instructional computers, smart classroom equipment, printers, and other miscellaneous technology equipment. Network and telecom infrastructure are maintained under a cooperative effort between IT&S the DOIT. Both IT&S and the DOIT use a web-based ticketing system, SysAid, where users can report and track the progress of resolutions for issues with technology equipment. SysAid was selected and is maintained by DOIT.

Critical data on network shares is backed up on a nightly basis through an automated process. Files from the backup are restored upon request in a timely manner by IT&S staff. There is not currently a disaster recovery plan that includes off-site backup replication, but the Technology Strategic Plan identifies the need for such off-site backup.

In order to meet institutional needs, an open source ticket management system was replaced in the spring of 2013 by the district-wide purchase of SysAid IT helpdesk software. This new ticket management system provides more efficient communication by allowing staff & students to initiate help tickets by emailing <https://contracosta.sysaidit.com>. Users can then select from a drop down menu to receive help with smart stations, District Portal or password resets. SysAid integrates all the essential tools into one Service Desk and allows staff and students access to their helpdesk history and open helpdesk tickets.

In addition, the CCCC InSite portal provides targeted and timely information on the landing page for each user that is determined by the user's location (college) and constituency (student, faculty, classified employee, etc.). Through InSite, students can access their unofficial transcripts, register and pay for courses, check account balances, purchase parking permits, and many other functions. Instructors enter student grades, check rosters, and access other information through Insite/WebAdvisor.

Beginning in 2011 all enrolled students have been given access to CCCC provided e-mail (InSite e-mail) through the InSite portal. Students are informed of their CCCC e-mail address shortly after their submission of an application to any of the District colleges. Student e-mail is one of the primary modes of communication between students and instructors, the college and the District. Student e-mail can be accessed from any Internet-connected computer and many other devices, such as Smart phones. Messages can be sent to everyone at a campus, the entire District, or to specific groups of students within a campus. Students can forward their InSite e-mail to another e-mail

address that they check on a regular basis. An additional benefit of InSite is that it is available to students 24-hours per day, 7 days per week.

Self Evaluation

LMC meets this standard. Planning for acquisition, maintenance and upgrading of technology infrastructure is guided by the Technology Strategic Plan and overseen by IT&S. These tasks are performed in coordination with campus departments, TECHNOLOGY ADVISORY GROUP, SGC, and DOIT. Program Review and RAP are used to determine additional needs for technology infrastructure equipment, as described above.

An effort is currently underway to provide authorization to all major college technology resources through a single user name and password combination that is linked to users' InSite credentials. When fully implemented, this single sign-on authentication will cover access to InSite/WebAdvisor, campus computers, e-mail, online courses, remote access through a VPN (employees only), and the campus' wireless network. InSite/WebAdvisor, administrative computers, online course access, VPN and wireless access. Implementation for student computers is in process.

The current expected life-cycle of desktop, classroom/lab computers and laptops is five years, although funding has not always been available to purchase replacement equipment on this cycle. The Technology Renovation Plan will fund the current round of replacements, but a long-term plan to assure that continuous and consistent funding is provided to meet the five-year replacement cycle should be developed and implemented.

Current staffing for IT&S is not sufficient to implement the continual acquisition, maintenance, upgrading and replacement of technology infrastructure equipment. With over 1,000 computers and 60+ smart classrooms at the two locations, staffing must be evaluated to ensure that the technology infrastructure at LMC will remain viable. IT&S staffing has been cut by several positions during recent workforce reductions.

Although critical files on network shares are backed up on a regular basis, there is no plan for business continuity in the event of a disaster (fire, earthquake, etc.). In addition, the backup system needs to be expanded to include images of critical servers and additional critical data maintained by the College.

Actionable Improvement Plan

A funding source must be identified so that replacement costs for technology infrastructure can be covered at the campus level on a continuous basis and in the long-term (Appendix XX of the Technology Plan).

In addition to funding the actual hardware, funding must be identified to provide adequate staffing to install and maintain the existing and planned technology infrastructure. The need for additional staffing has been identified through LMC's Program Review and additional staffing has been requested through the Resource Allocation Process

For disaster recovery and business continuity, a fully developed disaster recovery plan must be developed and implemented. If staffing is available, the plan for disaster recovery can be created in 2015 or 2016 by the IT&S Department in conjunction with the Business Services Department and TECHNOLOGY ADVISORY GROUP. Implementation will depend on both funding for hardware/software resources and additional staffing to support the implementation.

These actionable improvement plans will be implemented as time and staffing permit. No specific timeframes can be provided at this time as they are dependent on funding and increased staffing levels.