

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.

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

Description

Technology resources are used throughout the college to support and increase the effectiveness of student learning programs and service. Technology resources that meet the needs of learning, teaching, collegewide communications, research, and operational systems include the following:

- Smart classrooms equipped with projectors and sound systems
- Wireless access throughout the campus
- Multiple computer labs

- Computers for all faculty and staff
- VoIP/email/web services, including access to grades and research information
- Downloads
- WebSMART
- Hyperion software research tool
- Banner, a management information system
- District and college websites (including committee and faculty pages)

Planning for the technology needs of the college has been informed by the Education and Facilities Master Planning Project (EFMPP) and the College Technology Plan, currently under review and revision by the newly re-established (fall 2006) Technology Advisory Committee (TAC), a multi-constituency college committee.

Skyline College identifies technology needs through a variety of processes. The EFMPP helps identify the technology needs for Skyline as it plans for expansion and addition of physical space to house instructional, student services and administrative programs. Two recent bond measures have resulted in new funding for the college. These capital improvement projects (CIP1 and CIP2) include plans for improved and expanded technology to meet student needs. CIP1 included input from the builders users groups— faculty and staff who use those facilities scheduled for renovation and updating. The EFMPP Committee, made up of representatives from all constituency groups, will also inform plans for CIP2, including the identification of technology needs.

In addition, TAC identifies technology needs and determines technology services for the college, based on the education and facilities master plans. The committee has developed a number of goals to identify and meet institutional technology needs to support student learning (IIIC.1.1).

Members of TAC also serve on the District Instructional Technology Council (DITC), providing a bridge between district and institutional technology services. DITC provides a forum for administrators, faculty, and staff from all three colleges to discuss, preview, introduce, and recommend technology products, view application demonstrations, and discuss pedagogy, as each relates to teaching and learning, using technology (IIIC.1.2).

Network, computer services, and information systems staff are centralized under the direction of the Manager of Information Technology Services (ITS) at the district. Computer technical support staff located on Skyline’s campus report to the district manager to ensure coordination and delivery of technology support. ITS technical staff support the district’s network, telephone system, computers, and servers. An online work request system has been created to deal with immediate and long-range technical support needs (IIIC.1.3). Computer support technicians at the district staff a Call Center help desk from 8:30 a.m. to 6 p.m., Monday through Friday. Computer support technicians serviced over 2,400 work orders in the 2005-2006 academic year, with a 96 percent positive feedback rate, indicated by client surveys sent out after each service (IIIC.1.4).

The district has assigned three full-time computer support technicians to Skyline, who provide the following technical and instructional support services: computer/computer systems installation, configuration, maintenance, and repair; administration and management of instructional LAN; customer and help desk assistance; and liaisons with the District ITS for network support services and administrative information systems.

The district currently hosts approximately 108 webpages that belong to Skyline faculty members (IIC.1.5).

Self Evaluation

The college partially meets this standard. The college meets the standard with respect to identifying technology needs of learning, teaching, collegewide communications, research, and operational systems. The reactivation of the Technology Advisory Committee will provide needed structure and organization to better identify and meet technology needs for the institution. However, the college does not have a process for evaluating the effectiveness of technology in meeting the range of teaching and learning needs.

In the area of computer technical support, hiring of a top-level manager, the District ITS Manager, to guide technical development and support has made a major difference in the college's ability to plan and implement technology expansion and upgrades throughout the campus. However, with the centralization of technology services to the district, the college has been allotted only three full-time computer support technicians. This number falls below the standard ratio of the number of technicians to the number of computers on campus (over 1,300 connected to nine servers).

The centralization of technology services has resulted in a more narrow definition of the technicians' job. Technicians are no longer routinely members of college committees, but are allowed to participate only when their primary workload is deemed sufficiently low. The decrease of their input has been felt in areas like the TAC and this accreditation self study.

Additionally, the use of the faculty websites is an effective way of communicating with students; however, not all faculty have a website. Increasing the number of faculty with webpages offers an opportunity to better meet the goals of learning, teaching, and collegewide communications, particularly with students.

Planning Agenda

- Through the Technology Advisory Committee, develop an annual report to assess effectiveness of technology in meeting institutional needs, including student learning programs and services.
- Seek additional resources to increase local computer technical support.
- Work with District ITS to increase availability of technicians to serve on committees.
- Facilitate the development of faculty webpages for all faculty.

Evidence

IIIC.1.1	Technology Advisory Committee minutes, plan	Hard copy only
IIIC.1.2	District Instructional Technology Council	http://www.smccd.edu/accounts/ditc/
IIIC.1.3	District HelpCenter	http://www.smccd.edu/helpcenter/
IIIC.1.4	2005-2006 Information Technology Services client surveys	Hard copy only
IIIC.1.5	Skyline faculty websites	http://www.skylinecollege.edu/fachome.html

C.1.a Technology services, professional support, facilities, hardware and software are designed to enhance the operation and effectiveness of the institution.

Description

Decisions about technology services, professional support, facilities, hardware and software are made at both the district and college levels. The District Instructional Technology Council (DITC) (IIIC.1.a.1) and the District Information Technology Services (ITS) keep pace with technology enhancements, identifying, implementing, and coordinating districtwide technology services, including selection and installation of the district’s equipment and software. These include:

- SunGard Banner databases (student, financial, human resources, financial aid)
- Xtender document imaging system
- MS Exchange
- Web servers
- Ad Astra scheduling system
- SARS Grid and Call
- WebSMART
- Siemens HiPath 4000 phone system

Needs for renovated or new buildings are also assessed to assure that the college provides the technology best suited to the learning environment. This has resulted in new smart classrooms that have a “plug and play” system and the laptop computers that instructors use in them. These classrooms also have wall- or ceiling-mounted projectors, sound systems, Internet connection, DVD and video capabilities, and document cameras.

At the college level, each year, divisions submit requests for technology and other support needs. These are then reviewed and prioritized by the College Budget Committee, based on available funding. In the event that technology requests may be funded through Instructional Equipment, they are routed to those bodies responsible for decision making in these areas. The Instructional Leadership Team (ILT), composed of the instructional deans, has oversight of the instructional equipment budget and makes decisions regarding technology hardware and software to meet institutional needs. Requests submitted by student services and instructional deans are reviewed and prioritized by the ILT under the direction of the Vice President of Instruction and

forwarded to the President for approval.

Effective fall 2006, the district established goals to increase and expand distance-education offerings. This initiative is spearheaded by the Vice Chancellor for Educational Services and Planning and is coordinated through DITC. The district has sponsored two pilot projects for faculty across the district to evaluate several course management systems, including Moodle and eCollege. In addition, DITC is preparing for a discussion regarding ways in which the district can increase FTES through the use of online instruction and distance education.

In response to these district initiatives and to student demand, in recent years Skyline College has increased the number of online courses it offers. Since 2001-2002, the first year online courses were offered at Skyline, enrollment has jumped 248.2 percent, from 703 to 2,448 enrollments in 2005-2006. The number of online offerings will continue to increase (IIIC.1.a.2-5).

Self Evaluation

The college meets this standard. Overall, technology resources and services enhance the operation and effectiveness of the institution.

However, the college does not yet have an infrastructure in place to support online instruction. It is anticipated, however, that as the education and facilities master plans are implemented, the appropriate infrastructure will be established to support distance education. DITC will also continue to provide a forum for administrators, faculty, and staff from all three colleges to meet to discuss, preview, introduce, and recommend distance-education products, view application demonstrations, and discuss pedagogy as it relates to instructional technology (IIIC.1.a.6).

Planning Agenda

- Work with district technology groups to develop an infrastructure to support online instruction.

Evidence

IIIC.1.a.1	District Instructional Technology Council	www.smccd.net/accounts/ditc
IIIC.1.a.2	Center for Teaching and Learning website	www.ctlonline.net http://ctlonline.net/support/loan_to_own.html
IIIC.1.a.3	Education and Facilities Master Planning Project – spring 2006 website	http://www.smccd.edu/accounts/skypro/Ed%20Facilities%20Master%20Plan%2006/education_and_facilities_master.htm
IIIC.1.a.4	Skyline College Education Master Plan 2006	http://www.smccd.edu/accounts/skypro/Ed%20Facilities%20Master%20Plan%2006/Skyline%20Education%20Plan%20Report%20vr3.pdf
IIIC.1.a.5	Office of Planning, Research and Institutional Effectiveness	http://www.smccd.edu/accounts/skypro/home.html

IIC.1.a.6	District Instructional Technology Council minutes	www.smccd.edu/accounts/ditc/meet.html
-----------	---	--

C.1.b The institution provides quality training in the effective application of its information technology to students and personnel.

Description

The majority of technology training for college personnel is coordinated through the district's Centers for Teaching and Learning (CTL) which established centers at each of the three college campuses in 1996. The objectives of the SMCCCD Centers for Teaching and Learning are to:

- provide districtwide direction for the design, research, development and implementation of technology;
- provide faculty with training and support to allow them to effectively use technology to enhance student-centered learning;
- provide staff and administrators with training and support to effectively complete tasks to enhance business processes;
- provide central locations for people to exchange ideas and methods of using technology to enhance instruction and business processes;
- maintain campus-based centers that provide employees with access to current computer hardware and software; and
- strive to maintain SMCCCD as a statewide leader in the development and use of instructional technology.

The CTL at Skyline has grown and been relocated to a new building on the first floor of building 2. It serves the college by providing a place where Skyline faculty and staff can access high-end computer equipment, software applications and tools, and receive consulting assistance to develop web-based courses and webpages. The CTL also offers workshops and training sessions to meet faculty and staff needs. These workshops include training in the Microsoft Office Suite (Word, PowerPoint, Excel), and a wide array of multimedia applications, such as iMovie, podcasting, PhotoShop and more. The CTL also offers a number of online tutorials and has added iTunes U to its services. The CTL coordinator is available for individual consultation as well.

WebSMART and WebSavvy provide online assistance to faculty and staff who use technology in their day-to-day operations. Each year an annual report is developed summarizing the various workshops and training sessions offered (IIC.1.b.1).

During 2002-2003, the district implemented a managed hiring plan in order to avoid personnel layoffs. The CTL played a key role in providing training for staff who had to retrain for other jobs in the district, e.g., to increase their knowledge of software programs and Banner software.

Standard IIC.1.b

In addition to training offered through CTL, staff and faculty may apply for professional-development funds to upgrade skills in technology areas. New faculty may participate in a district training BootupCamp, which familiarizes them with available instructional technology as well as operational processes, such as accessing WebSMART or email functions (IIC.1.b.2).

Technology training needs for students are carried out through curricular offerings in the Business and Science, Math, and Technology (SMT) divisions (IIC.1.b.2-3). The Business Division offers courses in a variety of software applications which are available during the day, evening, and on Saturdays in a variety of formats, including semester-length, short-term and online courses. The Business Division has an active advisory committee, made up of community and business partners, who inform the division regarding technology needs for students entering the workforce. In response, the Business Division has expanded course offerings to meet changing technology needs.

The SMT Division offers courses in Telecommunications and Network Information Technology during the day, evening, and Saturdays. Courses are in the areas of wireless technologies, Linux, networking, electrical fundamentals, wiring and installation, mobile communications, PC configuration & repair, A+, Cisco routers concepts and applications, fiber optics, network security, and network troubleshooting. Cisco Academy courses are patterned after Cisco training guidelines. The program is industry-backed, hands-on and designed for students to keep current with changing technology. The program is developed in direct response to the needs of the industry, and focuses on the skills employers want. In addition, paid internships are available for advanced students.

Training needs for college personnel are identified through the District Instructional Technology Committee, the CTL, and personnel requests; and for students, through program review of curricular needs and input from advisory groups.

Self Evaluation

The college meets this standard. The college is well served by the training provided by CTL. Deans and supervisors are encouraged to provide opportunities for participation by classified staff and faculty in training sessions and workshops to increase their effectiveness in using technology to carry out their daily work operations and teaching assignments. The course offerings for students are sufficient.

However, one area of concern is that classified staff, due to their work schedules, do not have as much opportunity as they would like to take advantage of the workshops offered through CTL. In addition, there is interest in different levels of training (e.g., beginning, intermediate, advanced) to best respond to individual needs. Finally, there is an interest in further training for classified staff in how to save documents, transfer files, print documents, create PDF forms, and complete file backup. The plan to develop a systematic evaluation procedure for staff development, presented in Standard III.A.5.b, will identify ways to increase access for classified staff (IIC.1.b.4).

Planning Agenda

None.

Evidence

IIIC.1.b.1	Centers for Teaching and Learning annual reports	Hard copy only
IIIC.1.b.2	Skyline College Catalog 2006-2007	http://www.smccd.edu/accounts/skyinstruct/catalog_archive/index.html
IIIC.1.b.3	Skyline College schedule	http://www.smccd.edu/accounts/skyinstruct/fall_07a-c.html
IIIC.1.b.4	Centers for Teaching and Learning survey	Hard copy only

C.1.c The institution systematically plans, acquires, maintains, and upgrades or replaces technology infrastructure and equipment to meet institutional needs.

Description

The district's Information Technology Services provides support for the following services at the college and District Office:

During the fall 2005 semester, the district undertook two major projects to improve the network services at each college. Using Measure A bond funds, the first of these projects was a new telephone system, purchased and installed in 2005. The system is a Siemens HiPath 4000 with a node located at each college. More than 2000 voice-over-IP (VoIP) telephones were installed and the system provides the following functionality:

- Tight integration with Microsoft Exchange 2003 and Active Directory to provide unified messaging, i.e., managing voicemail, email and fax messages from either the telephone or from Outlook
- Survivability modules installed to continue to provide telephone services when one or more components in the system might fail
- Fax server capabilities built into system to provide fax capabilities from individual PC's
- Each wiring closet that supports VoIP telephones equipped with an uninterruptible power supply to provide four hours of runtime for the telephones in the event of a power outage
- Enhanced E911 services for safety and security of faculty, staff and students

ITS has in place a comprehensive backup strategy to insure that all server-based data is recoverable. The backups are picked up by an off-site storage company on a weekly basis. The backups include:

- SunGard Banner databases (student, financial, human resources, financial aid)
- Xtender document imaging system
- MS Exchange
- Web servers

- Ad Astra scheduling system
- SARS Grid and Call

A Siemens network engineer assisted ITS staff to completely redesign the network architecture to improve performance and reliability in preparation for the installation of the new VoIP telephone system. To implement this redesign, all network equipment was replaced with new Cisco switches and routers. This network equipment has a lifetime warranty from Cisco, and in addition ITS stocks spare switches to allow immediate replacement of any failed unit.

The second major initiative was to replace the wide-area network (WAN) connections from the District Office to Skyline College. Previously, the WAN connections only provided 20MB/s of bandwidth to the college. The new Opt-E-Man connections now provide Skyline with up to 500MB/s of bandwidth. In addition, the district acquired a silver service level agreement from AT&T to ensure maximum reliability for this network service.

To maintain network security the district colleges have deployed a multi-tiered approach. Cisco Pix firewalls are installed at each college to provide protection to the network. The district has a multi-year agreement with McAfee to provide anti-virus protection for all desktops and Windows Servers including the servers supporting Microsoft Exchange 2003 for email services. Also installed are redundant anti-spam servers to control email spam.

To provide more widespread and easy access to Internet services, ITS has deployed Cisco wireless access points in most high-traffic areas on all three campuses. This project was completed at the end of fall 2006.

In addition, each college participates in the Microsoft Campus License Agreement, which allows them to install the most current releases of the Windows operating system, Office and several other products.

Faculty and staff are responsible for backing up their own data on their desktop systems. ITS is currently evaluating alternatives to provide network storage to make the backup process for staff faster and easier.

To improve reliability of those services that are hosted by ITS from the computer center, the district is issuing an Request for Proposal to acquire an emergency generator to provide electrical power for at least 36 hours. It is anticipated that this unit will be installed by the end of 2007.

Self-Evaluation

The college meets this standard.

Planning Agenda

None.

C.1.d The distribution and utilization of technology resources support the development, maintenance, and enhancement of its programs and services.

Description

The institution make decisions about the use and distribution of its technology resources based on information received from a number of technology or technology-related committees, including the District Instructional Technology Council (DITC), District Information Technology Services (ITS), the re-established Technology Advisory Committee, the Centers for Teaching and Learning (CTL), the Enrollment Services Committee (ESC), and the Instructional Leadership Team (ILT).

To ensure that faculty, staff, and students have high-performance and reliable access to Internet services, the district has installed a dedicated DS-3 (40MB/s) connection to CENIC at each of the three colleges. As part of the network design, the capability exists to implement a manual failover in the event one of these DS-3's should fail for an extended period of time.

Technology resources are distributed throughout the college to serve the development, maintenance, and enhancement of its programs and services. Numerous technological advancements have taken place at the college in both instructional and student services areas over the past years, including:

- the addition of smart classrooms and conference rooms in renovated Business and Language Arts (building 8) and the new Science Annex (building 7A), all of which are equipped with data projectors and multimedia presentation consoles
- the addition of iTunes U, a free service from Apple that allows faculty and staff to make audio and video content accessible to students
- use of technology in the delivery of student services, e.g., online applications for admissions, financial aid, electronic counseling services, expanded webpages for students to access information about courses, programs and services
- implementation of the Ad-Astra course scheduling software
- upgrades/enhancements of the district software, SunGard Banner and web services, which provide faculty and staff with detailed online information, including the ability to obtain detailed course and student data used in research, planning and program review, and faculty access to course rosters and course-related information
- use of SARS Grid (a student tracking and accountability system) and SARS Call software
- continuous improvements and expanded features of WebSMART for student access to records, including transcripts, placement test scores, class schedule, catalog, etc.

- At the district level, upgrades to the district software system, Banner and WebSMART (which allows students to register for classes online), to enhance technology resources for faculty, staff and students
- New resource management software (Web+ Center) in place

Computer labs and/or stations are available throughout the college in the following locations to support teaching and learning, and student services.

- Learning Center Lab (for use by the general student population in connection with coursework in any discipline)
- Writing and Reading Lab (located in The Learning Center)
- English as a Second Language Lab (located in The Learning Center)
- Accounting Lab (Business Division)
- Computer Applications and Office Technology labs (3) (Business Division)
- Journalism Lab (Language Arts Division)
- Speech Lab (Language Arts Division)
- MESA Lab (Science, Math, and Technology Division)
- Science classrooms (Science, Math, and Technology Division)
- Physics Lab (Science, Math, and Technology Division)
- Photography classroom (Creative Arts and Social Sciences Division)
- Library
- Center for Advanced Learning and Technology (CALT) Microcomputer labs (4) for classroom or drop-in use
- Cosmetology classroom (Business Division)
- Disabled Students Program and Services (DSPS) classroom
- Assistive technology available in The Learning Center, the Microcomputer labs, the library, and the DSPS classroom

In addition, students have access to computers in various locations to access Internet services or other college services. These are located in the new Student and Community Center Cyber Café, the One-Stop Center for student services, and the career and transfer centers.

The Media Services Center provides an important function in ordering, purchasing, maintaining, monitoring, and distributing technological materials and equipment to students and faculty to enhance the teaching/learning process. Media Services is a central location for housing audio-visual equipment as well as mobile multimedia carts, which are equipped with PC or Mac computers.

The center's holdings include 1,012 videotapes, 231 CD-ROM applications, and an instructors' reserve section containing over 525 videos, 127 textbooks, and 880 English and foreign language audiocassette tapes. There are 26 student media workstations dedicated to the use of audio-visual materials. These stations include 11 VCR/DVD/TV monitor systems, including two group video viewing stations, one slide projector, and six CD/cassette tape stereo-sound systems. The center houses and circulates all of the CD-ROMS used at the 57 PC stations available to students in The Learning Center. In

addition there are two HP Scanners and three HP LaserJet Printers.

Some of the functions of Media Services personnel are to:

- purchase, process, maintain and circulate non-print library media materials to faculty and students;
- purchase instructional technology equipment, including DVDs, digital/video cameras, and overhead projectors;
- maintain and deliver mobile multimedia carts (4 PC and 3 Macs) for classroom use;
- train staff and faculty on how to operate equipment, such as PC/Mac Carts, and smart classroom technological equipment, including LCD projectors/DVDs/VHS/video cameras;
- distribute laptops and instruct faculty/personnel how to use them;
- maintain all media equipment throughout the campus;
- set up sound system for special events anywhere on campus.
- process media request forms for faculty;
- provide audio tape duplication;
- troubleshoot emergency calls from faculty having problems operating media equipment; and
- repair small electronics.

Media Services staff consists of one full-time senior library/media technician and one part-time evening media services technician, and a full-time electronics and media repair technician, supervised by the district. The center relies heavily on student assistants, including federally funded work-study students. An online ordering system is scheduled to launch fall 2007.

The college has reached its goal of having a PC or Mac computer connected to email/online and the Internet in every faculty office. In addition, a collaboration of the district bookstores and vendors has created a loan-to-own program for faculty and staff to purchase personal computers with no interest loans.

At present the college has over 1,300 PCs and Apple Macintoshes on campus and nine servers. The current average hardware specifications are Pentium III, 900 Mhz to 1000 Mhz, 128MB to 512MB RAM, 20GB to 40GB hard drive, 100mb network card, and Windows XP operating system for PCs, and I-Mac, 266 Mhz to 350 Mhz, 64 MB to 256 MB, and 6GB hard drive for the Macintoshes.

The following adaptive equipment and software are also available in The Learning Center: one HP Scanjet 5200C Scanner, one HP LaserJet 4100N Printer, one Dell GX 150, one Dell GX 240 TLC, Panasonic and Aladdin Genie and Telesensory Xerox (text-enlarging), special monitor, and software programs such as JAWS and ZoomText and adjustable table.

Self Evaluation

The college meets this standard. Most areas of the institution are well served by available technology resources. A sufficient number of computers support instructional programs and student services needs. The online ordering system that will be in operation in fall 2007 will enhance the Media Center services, making them more efficient and accountable. However, limited fiscal resources for technology services, hardware and software have severely affected certain, specific areas of the college. In some locations, there are old computers that can't run updated software.

- There has been a reduction in staffing in the CALT microcomputer labs since the time of the last accreditation, resulting in fewer staff to assist students, particularly in the evening, and there is no longer assistance on Saturdays.
- There is no budget for equipment repair.
- Even though the videotape collection has 152 more videotapes than reported in the last accreditation visit, that number is well below the minimum video collection size of 1,250 titles for a community college with the number of FTES that Skyline has (between 5,000-6,999), as recommended by the American Library Association (ALA).
- Media Services does not have sufficient personnel to serve the entire college community efficiently and effectively.

The Student Campus Climate Survey revealed that many students are pleased they had access to computers and computer labs on campus because they don't have computers at home (IIC.1.d.1). There were a number of comments about the need to have more computers in the library and more time to use them. Many students commented on the lack of available computers and that some of the labs had old computers and outdated software which hindered learning and preparation for entering the workforce.

Planning Agenda

- Seek additional resources to develop a comprehensive inventory and replacement cycle for all computer equipment, software and licenses; to repair existing equipment; and to provide adequate staffing.

Evidence

IIC.1.d.1	Student Campus Climate Survey spring 2006	http://www.smccd.edu/accounts/skypro/Surveys%20O&%20Focus%20Group%20Studies/Noel%20Levit%20-%20Spring%202006/Comprehensive%20Summary%20Student%20Survey.pdf
-----------	---	---

C.2 Technology planning is integrated with institutional planning. The institution systematically assesses the effective use of technology resources and uses the results of evaluation as the basis for improvement.

Description

Technology is integrated with institutional planning. The Institutional Planning Committee and the Education and Facilities Master Plan Project Committee are responsible for ensuring that technology resources are incorporated into the planning efforts. All capital improvement projects include a technology infrastructure that will meet faculty and student needs and keep pace with technological changes. The newest buildings on campus, the new Student and Community Center and the Science Annex, are equipped with smart classrooms, wireless hubs and state of the art equipment. In addition, all classrooms in renovated building 8 are smart classrooms.

The program-review process and development of the three-year work plans provide a vehicle for faculty and staff in instructional and student services divisions to identify their personnel and technology needs. These requests are then forwarded to the College Budget Committee, the body responsible for reviewing and prioritizing budget requests. In addition, the Instructional Leadership Team (ILT) is responsible for allocating the instructional equipment funds. Instructional and student services deans develop technology requests which are forwarded to the ILT. These are then reviewed and prioritized and forwarded to the President for final approval.

Self-Evaluation

The college does not yet meet this standard. Systematic assessment of the effective use of technology resources is needed.

Planning Agenda

- Through the Technology Advisory Committee, develop an annual report to assess effectiveness of technology in meeting institutional needs, including student learning programs and services.