

Standard 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.

Standard III.C.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.

Descriptive Summary

Technology is integral to the operation of the College and the educational process. Virtually every permanent employee, administrative, faculty, and classified staff member, has access to a computer on his/her desk. .

In 2000, when the last Accreditation Self-Study took place, Cañada College had a versatile classroom model being used in virtually every standard classroom on campus. Each room contained a cart with a TV and VCR, an overhead projector and a projection screen. This would account for two-thirds of the classrooms on campus, the others consisting of computer labs or specialized facilities such as the band room or art studios. The computer labs were the only rooms on campus that would utilize permanently installed LCD projectors for projecting computer images. If this capability was needed in other classrooms, a small number of “media carts” equipped with a computer and projector were available to be delivered to that room.

During the summer of 2003 the College began permanently installing more sophisticated media equipment in a number of classrooms. These “smart classrooms” all have ceiling-mounted LCD projectors for computer or video images, a sound system, internet access, and provisions to connect an instructor’s laptop computer or use the built-in desktop computer. Over the last few years this model has been refined for ease of use, economy and consistency of design. The ability to display PowerPoint presentations, play DVDs, access websites, among other things, have been universally praised by both instructors and students. By 2007-2008, all regular classrooms on campus will have become “Smart” classrooms.

Self Evaluation

The faculty members have embraced the use of technology in teaching and are making excellent use of the resources provided in the classroom. Within the past two years, the College made a commitment to provide laptop computers to faculty for use in their offices and in the classroom. Many full-time faculty members have these laptops now.

A bigger challenge has been finding a way to provide laptop computers for adjunct faculty.

The Centers for Teaching and Learning (CTL) provides faculty, staff, and administrators with the innovative pedagogical and technological expertise each needs to most effectively sustain the SMCCCD's leadership role in higher education—one which utilizes best practices and a student-centered approach to deliver quality instructional content and services to a student population with diverse learning styles and abilities.

When considering the 31 “Smart” classrooms and 8 computer labs, Cañada will have high-tech media equipment installed in over 75% of the classrooms by the end of this year, versus less than 15% just three years ago.

Planning Agenda

No recommendations at this time.

Standard III.C.1.a

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

Descriptive Summary

The District Information Technology Services Department works closely with the college personnel in providing technology services, professional support, hardware, and software recommendations to enhance the information technology effectiveness throughout the institution. The Computer Support Technicians are district employees and not individual college employees; however, when additional support is needed for large projects, the supervisor calls in additional technicians from the other two colleges to assist.

Effective fall 2006, under the Chancellor's direction, the DITC¹ (District Instructional Technology Committee) established goals to expand the distance education offerings in the District.

SMCCCD supports the offering of a combination of hybrid and fully online courses and will continue offering telecourses to meet the changing needs of our students. As the demand for distance education further develops, SMCCCD envisions the expansion of online course offerings to include complete programs for certificates and degrees. SMCCCD aims to raise the success of distance education courses to be the same or higher than traditional courses and, in so doing, provides the environment and support for faculty and staff to develop and offer the best quality of distance education to our students. The overarching SMCCCD Distance Education Goals are to:

- Develop a mechanism for enhancing student success in distance education;

¹ <http://www.smccd.edu/accounts/ditc/>

- Develop a process for expanding access to distance education and identify district goals;
- Select a platform for delivery of distance education; and
- Sustain an environment conducive to teaching and learning online.

The Distance Education Advisory Committee has been created to aid in this process and gather resources and information that will benefit all three colleges.

Self-Evaluation

The District Instructional Technology Advisory group meets on a monthly basis and all personnel are invited to discuss instructional technology issues, learn about new products on the market, and review best practices.

Planning Agenda

No recommendations at this time.

Standard III.C.1.b

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

Descriptive Summary

Each of the three instructional divisions, Business, Workforce & Athletics, Humanities & Social Sciences, and Science & Technology offer a variety of quality training in technology related courses to all students each semester. The workforce programs all have advisory boards composed of business & industry, student, faculty and college representatives that meet twice per year to give input on curriculum offered, technology used in business and industry, and what the future direction is in the field.

The training of personnel is done primarily through the Center of Teaching & Learning (CTL). Each campus has a classroom designated as the CTL and personnel have access to this classroom 24/7 by appropriately scheduling the classroom.

The objectives of the SMCCCD Centers for Teaching and Learning are to:

- a) Provide district-wide direction for the design, research, development and implementation of technology.
- b) Provide faculty with training and support to allow them to effectively use technology to enhance student centered learning.
- c) Provide staff and administrators with training and support to effectively complete tasks to enhance business processes.

- d) Provide central locations for people to exchange ideas and methods of using technology to enhance instruction and business processes.
- e) Maintain campus-based centers that provide employees with access to current computer hardware and software.
- f) Strive to maintain SMCCCD as a statewide leader in the development and use of instructional technology.

Self-Evaluation

All personnel are encouraged to update their current technology skills through the Center for Teaching & Learning on campus and also by taking a college course offered by the various instructional divisions on campus. Counselors encourage students to also take technology courses to enhance their skill level. Also, any students who are awarded an AA/AS degree or a Certificate from Cañada College should possess the skills to use computers to communicate, design, research and explore so that they are prepared appropriately for transfer or for entry into the workforce. The computer literacy (1 unit) requirement provides these foundation computer skills.

The Learning Center, which provides a positive learning environment that integrates technological resources and learning assistance services to support student learning across the curriculum. The Center provides assistance through the Writing Center, the Math Lab and the MESA (Math, Engineering and Science Achievement) program, as well as free peer tutoring. Additionally, the Learning Center has open computer labs with access to the internet.

Planning Agenda

No recommendations at this time.

Standard III.C.1.c

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

Descriptive Summary

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

During the fall 2005, the District undertook two major projects to improve the network services at each College. The first project was to work with a Siemens network engineer to assist the ITS staff to completely redesign the network architecture to improve performance and reliability in preparation for the installation of the new voice-over-IP telephone system. To implement this redesign, all network equipment was replaced with

new Cisco switches and routers. This network equipment has a life-time 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 Cañada College and to Skyline College. Previously, the WAN connections only provided 20MB/s of bandwidth to each College. The new Opt-E-Man connections now provide each College 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 ensure that faculty, students and staff 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.

To maintain network security the Colleges of the District have deployed a multi-tiered approach. There are Cisco Pix firewalls 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. 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.

Using Measure A Bond funds, a new telephone system was 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 have been 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 is equipped with an uninterruptible power supply to provide 4 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 have been completed and is in production

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

However, 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 issued an RFP for the generator and was awarded and the installation has begun. This is not “live” yet but will be in the next couple of months to provide electrical power for at least 36 hours. It is anticipated that this unit will be functional by the summer. The District provides and supports the maintenance of network infrastructures; the Facilities Master Plan is posted on the website at:

<http://www.smccd.net/accounts/facilities/planconstruct/masterplan.html>.

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.

Self Evaluation

Since the passage of Measure C, District Bond in fall 2001, the College and the District have worked closely on making virtually all instructional classrooms on campus as “Smart” classrooms. The “Smart” classrooms support teaching methods and updated curriculum by including audio/visual equipment, wireless hubs, and state of the art equipment. Faculty have laptop computers that can be used in their offices or in the classroom to take advantage of the renovated facilities.

Any additional items needed in the classroom, the faculty need to submit their instructional equipment requests to the Dean of the Division and then all items are brought to a division meeting for discussion and action. Once the division approves the items on one master list, the list is submitted to the Vice President of Instruction and then discussion takes place at the Instructional and Student Services Council (ISSC). At this time, all items submitted for instructional equipment dollars are discussed and voted upon depending upon funding allocation.

With the infusion of significant technological equipment in classrooms and in faculty and staff offices, the College recognizes the need to develop a funding model that will anticipate and support the renewal of the technological resources necessary to continue providing instruction in the most appropriate manner possible. Bond dollars have provided much of the infrastructure in the classrooms and that source of funding will not be available to replace out of date equipment in the future. The College has been working with the District Office to address this issue. The District identifies the resources

to update and/or maintain the infrastructure, but the College has the responsibility for maintaining computers, projectors and printers.

Planning Agenda

Develop a funding plan to maintain currency of appropriate instructional equipment in classrooms.

Standard III.C.1.d

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

Descriptive Summary

The institution technology resources are generated through budget planning and technology needs. Technology resources are well distributed throughout the college to serve the development, maintenance, and enhancement of its programs and services. A variety of technological enhancements have taken place in both the Instructional and Student Services areas over the past six years, since the passage of the Bond in fall 2001. These include:

- the addition of the Smart instructional classrooms including data projectors and wireless laptop capabilities throughout the main campus, including document cameras in specific workforce areas
- a spreadsheet in place that documents age of computers and printers in offices and classrooms to keep up to date with instructional classrooms and faculty and staff offices
- upgrades of software used by all District personnel
- upgrades to WebSMART & SARS Grid & SARS Call software for students' use
- upgrades to Banner and WebSMART for all personnel

There are numerous computer classrooms, The Learning Center, and laboratories for faculty, staff, and students to use the current technology available on campus. The Center for Teaching and Learning is also available to all faculty and staff. The college faculty and staff are working collectively with the District in developing a process and selecting a courseware program to develop additional distance education courses.

The ITS Department provides support for faculty/staff/lab computers. The following specs are our minimum requirements for ongoing support by ITS Technicians. While computers of lower specs are usually available, they are not recommended or supported by ITS.

Current Windows Minimum supported System:

- Dell Optiplex GX240 (1Ghz CPU or faster)

- Windows XP – Service Pack 2
- 512 MB memory (RAM)
- 20 GB hard drive with at least 3 GB free space
- DVD-Rom drive
- Built-in Ethernet
- 17" monitor or larger
- Keyboard
- Mouse

Current Macintosh - Minimum supported System:

- Laptops: iBook or PowerBook G3
- Desktops: eMac, iMac or Power Mac G4, 700MHz or faster
- Macintosh Operating System OS X
- 512 MB memory (RAM) or higher
- 20 GB hard drive or higher with at least 3 GB free space
- DVD-Rom drive
- Built-in Ethernet.
- 15" monitor or larger (17in for G4 and later)
- Keyboard
- Mouse

Self Evaluation

Cañada College is committed to provide full-time faculty and staff members with computers. Full-time faculty members have either a laptop or a desktop and a large percentage of part-time faculty members have personal laptops, as well. At the present time, there are sufficient numbers of computers to support instructional programs and student services needs. Within the past five years, the divisions have worked effectively with one other to share the computer equipped classrooms in an efficient manner.

In fall of 2006, the Noel-Levitz Student Satisfaction Inventory survey² was completed and the students positively identified that the computer labs on campus are adequate and accessible.

Planning Agenda

No recommendations at this time.

Standard III.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.

² <http://www.canadacollege.edu/inside/institutional-reports/noel-levitz-10-2006.html>

Descriptive Summary

The District Technology plan is part of the District's 2006 Facilities Master Plan.³ Through the shared governance approach, the planning process was highly participatory. Administration, College Council, Faculty, Staff, and Students attended presentations on analysis and concepts prior to the All College Forums. The two goals related to technology that came out of this process include: Goals for Students center around the educational and social experience on campus. For Faculty & Staff, the goals associate with a quality educational environment and equipment.

The Technology planning is integrated with institutional planning as the ITS Department works closely with specific Cañada College personnel in order to assess the effective use of current technology resources and recommends technology changes to enhance instruction. Also, as the Student Learning Outcomes (SLOs) are created for each course, program, and overall institution, there will be an assessment of future technology needs in and out of the classrooms.

Self-Evaluation

The program review comprehensive and bi-annual process that is completed by each department, requests the faculty members to list any equipment, technology, and materials needed for the coming year.

The institution prioritizes needs when making decisions about technology purchases by using the shared governance process at the College and has worked well. Priorities flow from requests and needs from the departments to the division to the deans and then on to the Vice Presidents, then on to the Budget & Planning Committee, College Council and then to the President with a list of recommendations. There is a proposed four year technology replacement cycle that is district wide. See the minutes of the all-college meetings concerning the Facilities Master Plan.

Planning Agenda

Reinstate the Technology Committee on campus to assure that technology planning is integrated with institutional planning and that the institution systematically assesses the effective use of technology resources and uses the results of evaluation as the basis for improvement.

³ http://www.smccd.net/accounts/facilities/planconstruct/MasterPlan_final_report_081406.pdf