



Standard III.C Subcommittee

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Accreditation Self-Study 2011-2012

STANDARD III.C

Technology Resources



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.

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.

III.C.1 Descriptive Summary

Technology resources are researched, procured and offered in an array of methods to support all college personnel in teaching, learning, communications, research and operational systems. The Technology Support Services (TSS) department designs, procures, implements and maintains the technology resources needed to support all college-wide technology systems. The Online Instruction Department focuses on providing support to faculty on the use of the Learning Management System (LMS). The College Technology Committee (CTC), which has campus-wide representation from all constituents, serves as an advisory council to TSS. A Continuous Improvement Team (CIT) with campus-wide representation focuses on reviewing all Enterprise Resource Planning (ERP) System—Banner requests and is a sub-committee of the CTC. CTC makes technology recommendations to the Planning and Budget (P&B) Committee.

III.C.1 Self Evaluation

GWC meets the standard.

Technology Support

TSS is located in the Health Sciences building and provides support for all technical systems on campus. The help desk can be reached via phone (714-892-7711 x55060), email (helpdesk@gwc.cccd.edu), and walk-ins. The office is open for walk-ins and appointments from 8 a.m. to 5 p.m., Monday through Friday. Technical support, including audio/visual, is available Monday through Thursday from 8:00 a.m. to 9:30 p.m., Fridays from 8:00 a.m. to 5:00 p.m., and Saturdays from 8:00 a.m. to 2:30 p.m. ([III.C.1.01: AV CS Spring 2012](#)). Technical support is also available at other times, as events require. A facilities request guides this additional support and identifies funding for the potential overtime required. One full-time person and several hourly technicians are available to staff the help desk for day-to-day operations. There are higher-level technicians available for higher-level support and projects.

Technology support is available to students, faculty, staff, management and others in multiple ways. The primary method is through an automated help desk system. The requestor simply sends an email to helpdesk@gwc.cccd.edu. A work order is automatically generated and a copy with all relevant information such as work order number, time of request, request description, and an URL link to keep track of the work order is sent back to the requestor. Requestors can also walk into the TSS office Monday through Friday from 8:00am to 5:00pm. The second most used method of requesting support is a phone call to the help desk line at 714-892-7711 x55060. A trained employee answers the phone 8:00 a.m. to 9:30 p.m., Monday through Thursday, 8:00 a.m. to 5:00 p.m. Friday, and 8:00 a.m. to 2:30 p.m. Saturday. TSS provides technical support in a wide range of technologies such as email, smart phones, databases, instructional labs, network, wireless network, Internet access, audio-visual, and many others.

Teaching

The college takes pride in continuously researching new technologies to aid in delivering instruction to students. Every classroom is a multimedia classroom with a computer, digital projector ([III.C.1. .02: Schedule of Deployment](#)), and speakers. TSS has setup all classroom projectors on a Crestron system that controls them from one location. To ensure efficiency, the system automatically turns off all projectors in the classrooms at 11:00 p.m. every night.

Several instructional programs expressed unique learning needs. The Administration of Justice program requested a virtual interactive combat environment (VICE) training center. The Registered Nursing program purchased human patient simulators. The department of TSS maintains all the human patient simulators that are used for instructing students in the Registered Nursing program. TSS staff assists with the setup of scenarios as dictated by faculty and the recording of student performance in the scenario. TSS records the student interaction with the human patient simulator and a DVD is provided to the faculty member for review and debriefing with the student involved in the scenario. Based on the computer lab replacement schedule, TSS recently deployed a virtual desktop infrastructure (VDI) in the math lab consisting of 110 systems ([III.C.1. .03: Computer Lab Replacement Schedule](#)). This technology will provide the college with the ability to utilize the instructional lab more efficiently and lower the maintenance of the computer systems. As funds permit and other instructional labs come up for equipment refresh, VDI will be analyzed to see if it is a good fit. TSS is currently capturing instructional lab utilization for future analysis and determination of need ([III.C.1. .04: Computer Lab Utilization Reports Web Page](#)). TSS technical staff provides the technical support for all computer labs.

The College opened a new Learning Resource Center (LRC) in 2011 with hundreds of computer systems. There are twenty-three study rooms each equipped with a computer and a flat screen digital monitor for student use ([III.C.1. .05: Paid Invoice with List of Equipment](#)). The college utilizes the latest software products for instruction such as Adobe Creative Suite 5, AutoCAD, and various others ([III.C.1. .06: List of Instructional Lab Software](#)). High-speed Internet access is provided with bandwidth at 100 Mbps. Additionally, there is wireless coverage throughout the campus including the athletic fields. The College strives to have state-of-art equipment in most of the instructional labs and the computers are replaced according to replacement schedules and the availability of funds.

Online Instruction

The Online Instruction Department at GWC assists faculty in creating online courses and provides students with technical support for online education.

Online Instruction is located in the new Learning Resources Center Annex building. The office is open for calls to the help desk phone (714-895-8389), faculty appointments, and student walk-ins from 8 am to 5 pm, Monday through Friday.

The online format provides a unique opportunity to students who are not able to attend traditional classes because of varying work schedules, jobs with extensive travel, non-residency, families with very young children, or physical or learning disabilities. Online education can also provide many resources that the classroom format cannot, including the ability to review difficult materials multiple times.

On-campus courses also utilize GWC's Learning Management System (LMS) to supplement their instruction, and support the College's ecological goals of reducing paper consumption by offering course materials for online view and download. Supplemental courses and their seat count have grown comparably to those of the online and mix courses. The Online Instruction Department provides assistance and technological support for these on-campus courses and faculty.

The Online Instruction Department has proven to be an excellent resource for helping GWC meet student needs and demands, within the confines of our resources, during California's present financial crisis. Although facing the same unfortunate cuts that every college and department in our State is facing, Golden West continues to be among the state's top twenty online-course FTES-generating colleges. For information (and to access online, hybrid, and web-enhanced courses), please visit: www.onlinegwc.org.

Enrollment Services-Student Records

The original, hard copy transcripts (1966-1988) are stored off-site in a secure storage facility (Iron Mountain). These records are accessible if and when necessary. The original student transcripts were also microfilmed and are stored in duplicate. One set is in the on-campus Halon-protected transcript room and the other set is stored at Orange Coast College, GWC's sister college. This practice is the same for all microfilmed records. The records have also been converted into the Paper Gate Imaging system. The Paper Gate system was GWC's first digital scanning system that is currently being transition to GWC's Banner Document Management System (BDMS). CUM folders contain transcripts from other institutions, Student Educational Plans, evaluations, academic waivers and other permanent student records. Currently, any record paper form retrieved for evaluation or counseling appointments is imaged into Paper Gate and shredded. Class Rosters and other permanent records prior to 1989 are either maintained on microfilm or are retained in the original "paper form" and stored in the transcript room. Permanent records that are stored in their original "paper form" have not been imaged into Paper Gate, as this system has not been supported for many years. As soon as possible, these records will be imaged into BDMS and maintained in an optical format. (III.C.1. .07: *Email from Shirley dated February 6, 2012*)

All new and incoming student transcripts and other student records are scanned and maintained in this digital format for ease of access and storage. BDMS is available to the Counseling Department and to other appropriate Student Services departments so that employees have access to the entire student record for those students who may have attended prior to the implementation of DSK in 1989.

The Coast District uses the ERP System- Banner. Banner is a district-wide system and is shared by the three colleges. Banner is a web-based system that is accessed from any computer on campus using the Internet protocol over the campus network and transmission is routed through a series of high-speed switches to a microwave transmitter. The signal is received at the District site and sent through a reverse order of switches that route the data to the computer. The campus network access utilizes an active directory password assigned by TSS to all staff in each department, whereas the off-site student records are accessed by password through District accounts assigned to authorized staff only as necessary to perform their duties. Banner allows the printing of record information to the local network printer queues. Banner data is backed up nightly at the District site and then sent to a commercial offsite storage location the next morning.

Photo Identification System

There is a dedicated, stand-alone computer system for the purpose of creating student photo identification cards. This system is housed in a glass enclosure at the main registration area and is accessible from the foyer. The ID card system holds associated data on the local hard drive, including student name, identification number, and Social Security number. In accordance with Family Educational Rights and Privacy Act (FERPA) regulations, the identification number has permanently replaced the SSN on the ID cards as well as most other records, although the student can access their data using their SSN if they wish to do so. The ID cards also function as a student Library card and for use in the computer labs, PE open-labs, and other areas using the cards for identification or for attendance accounting purposes. Therefore, the photo identification card system enhances efficiency of several campus operations. TSS backs up this system nightly.

The District has always been concerned about the security and confidentiality of student records. District policy gives database accounts primarily to bonded staff. A FERPA form needs to be read and signed by the employee before access is granted. The form is kept at District Office for storage.

College-Wide Communications

GWC personnel have high-speed Internet, e-mail, and calendaring communication available to perform research and communicate with one another. Exchange 2003 with the Outlook 2003 client is the current e-mail system for the college. The e-mail system is used extensively for formal and informal communication. The Outlook Calendar is used significantly to keep track of all meetings and calendar events. Tasks and calendaring resources allow for better time management and scheduling of events. Access to services from off campus is accomplished through a secure and encrypted virtual private network (VPN) and Exchange webmail. This is crucial for all staff and faculty but most especially for part-time faculty ([III.C.1. .08: Virtual Private Network](#)).

GWC has implemented a wireless network throughout the campus. Students and college employees can access the wireless network by authenticating with GWC's active directory. The wireless network provides students and staff with the ability to have access to their resources anywhere and at any time of the day. The ability and flexibility provided to students and staff affords them the capacity to increase their productivity and to access crucial research resources. The combination of GWC's wireless access and the IP-based Banner system affords faculty access to relevant student and class information from their laptops without requiring a cable. This is especially crucial for GWC's athletics faculty that has coverage throughout all the baseball, soccer and other athletic fields. Faculty can access rosters and other crucial information from laptop computers while on the athletic fields ([III.C.1. .09: GWC Wireless Networking Procedures and Guidelines](#); [III.C.1. .10: Campus Wireless Map](#)).

Additional methods of communication are the college website and the electronic bulletin board. The college website provides the students with the ability to search the class schedule, course offerings, current course catalog, campus events and an array of other information. There is an online application on the website as well as a list of forms and publications. A map of the campus and a list of computer labs with the operating hours are available on the website as well.

The bulletin page is a means of communication within the campus community. All computers on campus are set by default to open to the campus bulletin page when the Internet browser

is launched. Available on the bulletin page are resources such as the Technology Master Plan, Facilities Master Plan, Student Equity and Access Report, The College Master Plan, and messages for the entire campus community. The bulletin page lists departmental contacts and phone numbers ([III.C.1. .11](#): *GWC Bulletin Web Page*).

The College has two digital signs on the most traveled streets outside of the campus. These signs are primarily used to communicate with the community, existing students, and potential students. The sign located on McFadden is on 24 hours a day, 7 days a week. The large marquee sign on Edinger Street is turned off from midnight to 5:00am. TSS supports the signs.

Graphics/Publications

The Graphics/Publications department provides a range of services for GWC's faculty and administrative staff. Academic and administrative departments have the option of submitting their jobs for reproduction either in person or via e-mail. Copy Room personnel assist instructors/staff by either reproducing their work for them, or by assisting them on the self-service copy machines. Although some work is done for non-instructional areas, the bulk of the work is done in support of instruction.

A 24-hr turnaround is guaranteed for all copy jobs; however, most are typically completed within one hour. The department is open from 8am to 5pm Monday to Friday. Extended hours are offered for the Copy Room only during the semester, as well as the option to e-mail work requests/jobs to the department. The extended hours for the Copy Room are 7:30am to 8am and 5:00pm to 7:00pm during the semester only. The popularity of e-mail submission has increased since its inception in 2002.

The Pressroom staff prints material that is not produced on GWC's copiers (i.e. jobs that will be fed back through a laser printer for additional printing such as certificates and letterhead, large run jobs, envelopes, etc.). Four-color work, the College Catalog, the Schedule of Classes, and the Calendar of Events are published off campus. Additionally, any job requiring more than 2,000 impressions is sent to the Pressroom for offset printing as a cost-saving measure to the College ([III.C.1. .12](#): *Graphics Accreditation Response email dated November 18, 2011*).

Limited bindery services are provided within the Copy Room. These services are limited to automated tasks only. This includes collating and stapling (1 or 2 staples) up to 100 pages. The Pressroom provides the following additional services: shrink-wrapping, non-carbon copy paper (NCR) padding, laminating, cutting, stitching (stapling) of jobs over 100 pages, folding, saddle stitching, and 3-hole drilling. The only bindery jobs that GWC currently sends off-campus are invoices or receipts printed on NCR paper that require numbering.

All work requests are input/tracked/priced using a custom-designed Graphics Program. This custom program automatically sends completion notifications (via e-mail) to requestors when their jobs are ready for pick-up.

The department maintains its own inventories, processes purchase order requests, quotes, tracks, and works with outside vendors to complete work requests and provide special request purchases for departments as needed.

Operational Systems

The college has a wide range of technical systems that help the institution achieve effectiveness. There are a multitude of databases throughout the college that provide for collection of data and the generation of reports. The college has two storage area networks (SANs) that house GWC's institutional data. The SAN provides the campus with the ability to store large volumes of information and is flexible enough to grow with the demands of the college. There are public share drives, private share drives, and individual drives available to each employee. Network share drive access rights are based on departments and provide an area for all users to have access to key campus file, forms, and documentation. Additionally, students are provided with their own individual private drive with a storage limit of 300 megabytes of storage.

GWC has an Exchange email system, hundreds of projectors, computers, virtual desktop infrastructure (VDI), many different software packages, and, most recently, mobile applications.

The databases throughout campus vary according to the needs of the individual departments. For example, the Dynamics software is used for fiscal work supported by MS SQL while others use Oracle as a database. The college has off-the-shelf database applications as well as customized ones. To learn how well an event, publication or employee is performing; surveys are created and distributed in-house to specific target groups. Several departments utilize vendor products, such as Survey Monkey, to conduct these surveys.

GWC has a standardized operating system approach for desktops and servers. The College has a Microsoft campus agreement to use the Microsoft operating system, MS Exchange for its email system, and MS Office for the common office productivity applications ([III.C.1. .13](#): *Campus and School Microsoft Agreement*).

In 2005, the District decided to migrate to an ERP system, SunGard Banner. The legacy information system could not produce the reporting, web-based registration, up-to-the minute information, or technical services required to meet the needs of learning, teaching, college-wide communications, research, and operational systems. The SunGard Banner system basic implementation was completed in 2008 and now provides online registration, wait-lists, and reporting. It is a fully integrated, relational database system. All three colleges use SunGard SCT Banner as the ERP solution and SIS. The ERP system includes student administration, human resources, finance functionality, document management, and a range of other utilities. The system utilizes the Oracle database and HP hardware ([III.C.1. .15](#): *Banner Implementation Timeline*).

III.C.1 Actionable Improvement Plan

None

III.C.1.a

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

III.C.1.a Descriptive Summary

The GWC 2004 Technology Plan articulated a vision for implementing the use of sophisticated technology available at that time to provide a better educational environment and college life for students and staff over the subsequent five to ten years. The dream captured in that Plan was for

resources that would be accessible to students and staff alike. The Plan called for preparations to build the infrastructure, applications, and services to achieve the vision. Goals were divided into three different timelines. One timeline was for goals that would be achieved in two years, another was for goals to be accomplished over two to five years, and finally, a third timeline set goals that required resources that were not currently available. The Technology Plan anticipated that technology would be used improve College operations, provide new methods for delivering instruction, and create new opportunities for fields of study. ([III.C.1.a.16](#): *GWC Technology Master Plan, 2004*; [III.C.1.a.17](#): *Technology Master Plan Update 2012*)

Since that time the College's technology resources have been continually evaluated to measure their effectiveness and efficiency. The planning, acquisition, and support of technology are developed through a variety of institutional processes. Campus technology is continuously being expanded to insure accessibility for GWC's staff and diverse student population.

III.C.1.a Self Evaluation

GWC meets the standard.

College Technology Subcommittee

The CTC is the main group that oversees technology requests and makes sure that items approved are aligned with the Technology Master Plan and campus goals. The CTC presents recommendations to the Planning and Budget Committee (P&B) that oversees the expenditures for the campus. The P&B committee represents all college constituencies. The CTC has campus-wide representation and is comprised of students, academic, administrative and classified staff. The CTC meets on the first and third Wednesday of every month. There are 15 members on the committee.

A four-year replacement schedule has been ratified by the CTC and is in place for all instructional computer labs. However, due to a lack of funding, the schedule has not been followed ([III.C.1.a.18](#): *Computer Lab Replacement Schedule*).

Technology requests are channeled through the CTC for review and acceptance. Departmental technology purchase requests are primarily derived from the department's program review. Every two years all departments create a program review that includes technology-funding requests. The CTC reviews, asks for additional information if needed, and votes on a motion presented by department representatives. The primary focus of the review is to ascertain the extent to which the proposal enhances the operation and effectiveness of the College. If passed, the motion is presented to the P&B Committee for final approval.

Technology Support

The TSS department strives to provide excellent service and new technologies for the campus. The highly skilled TSS team evaluates the needs of faculty, staff and students and develops solutions to enhance learning. TSS partners with key vendors and manufacturers to ensure industry standards are deployed and practiced. Major projects are presented to the CTC. Typical day-to-day operational technology purchases from all departments are sent to TSS for review and approval. This ensures technology purchases are compatible with GWC's existing systems and are not redundant.

Instructional Lab Software

Faculty determines all instructional lab software purchases and updates. Instructional lab software is typically either under a service maintenance agreement that provides constant updates or fully paid without updates. Any new updates or requests are first sent to the Dean of that discipline. Once approved by the Dean, technicians analyze the software and test it for compatibility. A plan is agreed to as to the date of the deployment (i.e. spring, summer, or fall semester). Technicians meet with the instructors before the beginning of the semester and ensure all versions and updates of the software are as requested. Upon approval of the faculty, the technician creates an image and deploys it in one system for the faculty to test. If the faculty approves the image, the technician deploys it throughout the instructional lab.

Facilities

GWC's computer systems grew rapidly in the early 2000s and outgrew the then available facilities. In 2007, the College researched the available campus space to find a suitable location for crucial computer systems. A location was identified. The District Office distributed an RFP and formal bids were tendered ([III.C.1.a.19: Notice to Bidders Calling for Bids, MDF Bids](#)). The main distribution facility (MDF) was built in 2008. It provides all the expected facilities of a data center with a backup power generator, a fire-suppressant system, air conditioning, adequate uninterruptible power supply (UPS) power, and room for growth. GWC decided to build the MDF with newer green technology. A natural gas backup generator was selected as opposed to a diesel generator that is more common. Additionally, the fire-suppressant system, Inergen, was a newer system with zero global warming value and zero combustion products ([III.C.1.a.20: Email Inergen](#)).

The College relocated all technology systems to the new data center during the 2008 winter break to minimize any impact on the institution. The computer systems are now housed in proper facilities that safeguard GWC's valuable institutional data. This places the College in an excellent situation to be able to grow campus systems as technology demands increase throughout the College campus in the upcoming years.

The single network path to District Information Services (DIS) does not offer the fault tolerance necessary to protect against physical failure of the devices that make up the connection. There have been a number of instances in which student registration and other operations were temporarily suspended due to power outages at the District site, network or microwave failures.

GWC connects to its crucial ERP system, Banner, through the College's microwave connection. This is a line-of-sight microwave. It is a recurring point of failure when connecting GWC to the Banner system, which is located at CCCD's District Office. This has caused major problems since Banner is crucial to the enrolling of students, transcripts, financials, document imaging, and others. TSS is in the process of contracting with Time Warner for a mesh Metro Ethernet solution that will provide GWC with a 1G connection back to the District Office and connectivity to the sister campuses. This will become the primary connection while the existing microwave system will serve as a backup connection.

Over the last four years, GWC has built two new buildings with an additional 80,000 square footage of space. The amount of technology infrastructure has increased substantially, but during this same time interval, TSS has lost five personnel positions. A key position was the expert who maintained the network infrastructure. TSS is currently challenged to replace the lost network

infrastructure maintenance expertise. This loss has stretched the department very thin and added significant workload pressures. The TSS Director is in discussions with Vice President of Administrative Services and Student Life to address the shortfall of permanent staff that has been intermittently supplemented by specialized consultants as needed and sharing of staff with its sister college. TSS is engaged in discussions district-wide to create more collaboration, sharing of resources, and centers-of-excellence that will maximize the efficiency and effectiveness of our district-wide IT staff. The college has engaged with the District in a District-wide analysis of technology services, and anticipates the development of a District-wide resource and staffing plan by the end of 2012-13.

III.C.1.a Actionable Improvement Plan

None

III.C.1.b

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

III.C.1.b Descriptive Summary

As information technology continues to advance, an institution-wide collaboration is used to provide specialized training for both students and employees in and out of the classroom.

Students

At GWC students have access to and receive training on current software and hardware technologies through the credit instructional course offerings, that support their learning across a variety of disciplines. These credit courses provide students with the tools they need to reach their educational goals. Discipline-specific computer laboratories, supported by faculty and staff, allow students opportunities to practice theory, complete classroom assignments, and strengthen their learning through hands-on use of current technologies. These practical training labs are an integral part of curriculum throughout the College. In addition, GWC students have access to open computer laboratories where students can come and use the computers to do laboratory work or catch-up work. These open computer laboratories have all the software available that students would find in their instructional labs plus the open laboratories are staffed with personnel that can help the students. However, the lab staff's level of expertise is not the same as the students' instructors.

The College's Community Education program also offers a variety of non-credit courses and training opportunities for students and staff in the use of technology both for personal enrichment and professional development ([III.C.1.b.21: Community Services Schedule of Workshops Web Page](#)).

Faculty and Staff

A variety of technology training opportunities for faculty and staff are provided through Staff Development, the Institute for Professional Development (IPD), and the Online Instruction Department. The College has a dedicated trainer through Staff Development, who provides campus-wide training for new software implementations, holds open lab hours, and is available for one-on-one training sessions for anyone looking to deepen their knowledge of a particular program.

The Online Education Department also provides specialized technical training for faculty in the use of the college's online learning management system, Blackboard. General training sessions

are offered to faculty when substantive changes to the learning management system are made. Additionally, one-on-one training is available by appointment or walk-in ([III.C.1.b.22: Online Training Provided to Faculty at GWC](#); [III.C.1.b.23: Online Faculty Training Materials 2007-2012](#)). Open lab hours are also available for any faculty member wishing to work on an online course through Staff Development.

College-wide training interests for faculty, staff and students are identified through a survey ([III.C.1.b.24: Technology Survey Results Spring 2012](#)). The survey was distributed during the time period of February 24 through March 12, 2012. Training survey results are incorporated in the College Technology Master Plan and the College Staff/Professional Development Plan, ensuring the campus community utilizes available technology resources to the fullest potential of those resources.

Staff training documentation for using the ERP is available on the Voyager website and procedure manuals are available in the Voyager portal ([III.C.1.b.25: Voyager End User Training Web Page <http://www.cccd.edu/voyager/training/training.aspx>](#)).

Computer Labs

The campus has over 1,100 computers in instructional computer labs that are available to all GWC students. These computer labs are maintained with the latest and greatest technology and all the software that is covered in class. Therefore, students have access to all technological resources within the College, and the students use the computer labs heavily. The computer labs are staffed with knowledgeable employees who assist students with any questions that they might have. In addition, the College has a computer area in the student center that affords students a place to check their e-mail as they stop by for a meal.

GWC also has a dedicated lab for students with disabilities. The equipment and software are tailored for their needs and to address their requirements. Adaptive keyboards and mice as well as 24" monitors are some of the equipment provided. Macs and PCs are available with the following software programs:

- Windows XP SP3
- Adobe Acrobat 10
- Adobe Flash Player
- Adobe LiveCycle ES2
- Achievement Technologies 4.1
- Dragon Natural Speaking 9.5
- GDP Online
- Internet Explorer 8
- Jaws 10
- Kurzweil 3000
- McAfee VirusScan
- Microsoft Silverlight 4
- Microsoft Office 2007
- Microsoft Office 2010
- MyIT Lab Online
- PH TrainAssessIT Online
- Plato Pathways
- PowerDVD
- QuickTime
- Real Player
- Roxio Creator DE
- SAM 2010 Online
- SuccessMaker
- WinZip 15.5
- ZoomText 9.1

The hours of operation for the labs are: 9:00 a.m. to 8:00 p.m. Monday through Thursday and 9:00 a.m. to 1:00 p.m. Friday.

Library Resources

In addition to the 100 computers located in the Student Success Center, on the first floor of the new LRC, the library has two computer-teaching labs with 35 stations each, plus about 20 computer terminals in the reference room. All except four of the computers provide full access to the Internet, library catalog, databases, and MS Office suite. These computers are accessible via student ID number and proper authentication. In addition, students may access library databases and catalogs from home using password-protected access. Passwords are available free from the reference librarian when students show their current student ID.

The library spends about forty thousand dollars annually on electronic database subscriptions that include the full text for thousands of periodicals (e.g. magazines, journals, newspapers, government reports, etc.) Please see the GWC library web site for the list of [database resources](#). An additional discussion of the Library and Learning Resources technology is found under standard II.C.

There are also three computer stations in the library that have adaptive software programs for use by students who are visually impaired. They include software and hardware for Jaws and other adaptive software. The College is in the process of replacing media materials to meet the closed captioning Americans with Disabilities Act (ADA) requirements.

The library faculty and staff all have computers in their offices and workstations and use Internet links for services for the catalog management system (Voyager/Endeavor), the library database information (OCLC and MARCIVE), and on-line ordering for the library materials (EBSCO plus Baker and Taylor are our primary vendor service providers). There is also a library web page and links to Internet sites on GWC's library home page as well as embedded in its library on-line catalog for books.

III.C.1.b Self Evaluation

GWC meets the standard.

Technology evolves at a very rapid pace. With the current budget situation, the College is challenged to keep the technical staff trained with the latest technologies. Smart phones have exacerbated this challenge. Students and personnel expect College technicians to provide assistance with any new smart phone. However, the College does not have the funding to train TSS technicians with the latest mobile operating system. This has caused a drop in the effectiveness of service provided and diminishes the ability to deploy new technologies.

The TSS Director is in discussions with the Vice President of Administrative Services and Student Life to find yearly funding for an online training subscription for a company such as Lynda.com. This could be available to all technicians for training. The TSS Director will discuss with the CTC the option of identifying smart phones that are to be supported and limit support to only those systems. This will limit the training and knowledge required to provide support for these devices.

III.C.1.b Actionable Improvement Plan

None

III.C.1.c

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

III.C.1.c Descriptive Summary

There are four major planning tools utilized by GWC to address technology: (1) Educational Master Plan for the College ([III.C.1.c.26: GWC Educational Master Plan, 2011](#)); (2) District Technology Master Plan ([III.C.1.c.27: Coast Community College District Educational Master Plan- Vision 2020, Appendix H.2- Technology Plan, 2011, pp. 85-97](#)); (3) College Technology Master Plan ([III.C.1.c.28: GWC Technology Master Plan, 2004](#); [III.C.1.c.29: GWC Technology Master Plan Update 2012](#)); and (4) program reviews for each department. The Educational Master Plan serves as the strategic guiding factor. The District Technology Master Plan serves as an umbrella to GWC's college technology plan. The College Technology Master Plan sets goals and operational objectives to achieve these goals.

III.C.1.c Self Evaluation

GWC meets the standard.

New major projects or upgrades are researched and presented to the College Technology Committee. These proposals are scrutinized to insure that they serve campus goals and comply with the Technology Master Plan. Many questions are asked, presentations are given, and when needed, more information is researched. The Technology Subcommittee must approve the proposal before it is forwarded to the P&B Committee. Once a project is approved, it will move to the P&B Committee for financial consideration and for additional review of alignment with campus goals. Strategic planning and financial decisions are made when approving technology projects. The total cost of ownership and return on investment are reviewed before any technology project is moved forward.

The program review is the main vehicle utilized to make departmental technology requests. This is performed every two years by every department on campus. In accordance with the GWC Technology Plan, the College's Technology Committee reviews the adequacy and effectiveness of the technology. The committee reviews program review requests and makes recommendations to the P & B Committee.

Equipment Replacement

About six years ago, GWC created a replacement plan for instructional lab computers. It clearly delineated how often computers should be replaced and the different labs' schedules. However, due to a lack of funding, the plan has not been followed as scheduled. When funds are available, the plan is followed ([III.C.1.c.30: Computer Lab Replacement Schedule](#)).

Computer replacement outside of the instructional labs has been minimal. Each department replaces its computers if there are funds available in the departmental budget. TSS is currently reviewing VDI technology as a way to minimize GWC's total cost of ownership and replacement of the older computer systems being used by staff. The need to replace staff computers, in one of the college's most significant challenges and will be addressed by Planning and Budget in the 2012-13 year with one-time funding.

TSS presented, in December 9, 2009 and again in March 14, 2012, the yearly funding required for maintaining, upgrading, and replacing the technology maintained by TSS and located throughout GWC's campus to the P&B Committee. The amount was approximately \$1.2 million per year in 2009 and \$1.6 million in 2012 ([III.C.1.c.31: GWC Technology Operating Expenditures \(TOE\) 2009](#); [III.C.1.c.32: GWC Technology Operating Expenditures \(TOE\) 2012](#)). Unfortunately, the funds could not be located.

The cost for the on-going yearly service maintenance agreements (SMA) to cover College software and hardware is approximately \$243,000 per year. This amount is currently not budgeted.

Similar to all other California community colleges, GWC is finding it difficult to keep up with technology and its related costs, especially when the budget allocations from the state are being reduced. Due to funding challenges, the College has not replaced technology at the rate that was planned. GWC is engaged in discussions about how to best deal with this situation.

ERP Upgrades

The ERP-Banner system is upgraded semi-annually. Those upgrades are coordinated through the District CIT. The CIT agendas and documentation to illustrate the process and history of technology planning are located at the Voyager web site ([III.C.1.c.33: Voyager Project Software Suite Web Page](#)).

GWC works within its shared governance model to identify funds to allocate for technology. The minimum requirement is the on-going yearly SMA costs. The target is to create a line item in the budget to allocate funds for the SMAs. A larger discussion will ensue to explore how to fund the replacement costs of infrastructure, hardware, and software. These discussions will be guided by the concepts in the District Vision 2020 Educational Master Plan, Appendix H.2- Technology Plan ([III.C.1.c.34: Coast Community College District Educational Master Plan- Vision 2020, Appendix H.2- Technology Plan, 2011, pp. 85-97](#)).

III.C.1.c Actionable Improvement Plan

None

III.C.1.d

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

III.C.1.d Descriptive Summary

Resources are allocated for technology by budgetary considerations addressed by the Planning and Budget committee, and are tied to the College's Program Review Process. Resources are allocated according to division and department priorities.

The CTC, a subcommittee of the College P & B Committee, provides input on the utilization and distribution of technology resources. The CTC, composed of faculty, staff, students, and managers, reviews all technology requests originating from the departments' biannual program reviews.

Based on the technical requirements and compatibilities, district policies, college policies, and support, the CTC makes a recommendation to the campus-wide P & B Committee for approval of the individual technology requests. The College P & B Committee makes its recommendations for technology acquisitions to the President for final approval.

III.C.1.d Self Evaluation

Technology has played an integral part in the enhancement of GWC's educational programs. The Nursing program utilizes state-of-the-art human patient simulators to provide hands-on instruction to its students. These simulators are very realistic and afford the faculty an opportunity to judge student response to various scenarios. GWC is part of a handful of colleges nationwide that provide this technology to nursing students. GWC has a police academy that trains students for careers in law enforcement. The College recently deployed a Virtual Interactive Combat Environment (VICE) for this program. The environment is comprised of a team leader station, complete with a 180-degree visual screen, and 12 individual stations. Students and faculty use the system to take part in a number of law enforcement exercises. VICE also features team-based tactics and techniques that enhance student learning.

GWC deployed a Virtual Desktop Infrastructure (VDI) in the math lab. This technology provides the College the flexibility to utilize that lab space for various disciplines, not only math. For instance, one hour the lab can serve the math discipline while the next hour in can serve the accounting discipline. The VDI project will also reduce costs since the maintenance of these systems is lower and the virtual systems have a longer life span than typical computers. The utilization of technology has been vital in keeping educational programs competitive and up-to-date.

III.C.1.d Actionable Improvement Plan

None

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.

III.C.2 Descriptive Summary

Technology planning takes place at the District level with the sister campuses and at the campus level. At the District level, GWC faculty and staff participate in planning groups to continuously improve the shared ERP, Banner System ([III.C.2.01: Voyager Project, District Continuous Improvement Team Web Page](#)). This project, titled the Voyager Program, involves staff from the following departments:

- Technology Support Services
- Admission and Records
- EOPS
- Fiscal Services
- Human Resources
- Accessibility Center for Education (ACE)
- Financial Aid
- Assessment
- International Students

These planning teams utilize campus staff to design the business programming for the fiscal, human resources, and student services modules. District-wide information technology support is based on the findings from the District CIT that meets every three weeks. The GWC CTC receives ongoing reports from members of the District CIT on the progress of the Voyager Program.

At the campus level, institutional effectiveness is a priority for technology planning. The annual program review process provides a means for divisions and departments to request any new, improved or changing technological needs. The college-wide CTC reviews the technology requests for effectiveness and compatibility with the college's current systems and infrastructure. Any requested changes to Banner are channeled through the campus and District CIT that set priorities to all Banner-related projects. The CIT has college-wide membership. All CIT recommendations are sent to the President.

The CTC, along with TSS, reviews all projects to make sure they are in line with the College and Technology Master Plans. These groups insure compatibility within the infrastructure and with various campus and district-wide resources. Total cost of ownership (TCO) and return on investment (ROI) are reviewed to make sure the college and the community are applying the best practices and making good financial decisions. As requests are received, the committee reviews the effectiveness and need of any request as well as the budgetary considerations. After these two groups approve a project, it is presented to the P&B Committee. It is the responsibility of the P&B Committee to consider whether technology projects should proceed further.

III.C.2 Self Evaluation

GWC meets the standard.

TSS, through its program review, submitted a request to fund a formal data center for the College's various information systems ([III.C.2.02: Program Review Forms, Directions, and Results 2006, 2008, 2010 and 2012 Web Page](#)). The request was discussed in meetings with upper management. The request worked its way through the normal planning process and committees. There were discussions to identify the best location of the data center within the campus. When the project was approved, TSS worked closely with GWC's construction manager and the District staff for a formal Request for Proposals (RFP).

The College Technology Subcommittee had various discussions in May 2006 as to what should be the minimum technology in each one of the campus classrooms. The CTC representatives asked constituents for suggestions. It was agreed to have a minimum of one computer in every classroom with a projector and screen. The funds were allocated and proper planning, based on classroom availability, was exercised for the installation of the equipment. The project was successfully completed with every instructional classroom meeting the minimum standard of technology. The project was completed in December of 2009.

The implementation of the ERP, Banner system has illuminated the different ways in which each college operates within the District. This has helped facilitate discussions on ways to improve effectiveness as a District and to highlight the means to improve service to the students through standardization of certain procedures. For example, there are discussions under way to use a common course numbering system and a one common application. The Banner implementation of a wait list was a major benefit to GWC students and faculty for managing enrollment procedures ([III.C.2.03: Voyager Project Enhancement Projects List Web Page](#)). *This functionality went live in fall 2010.*

III.C.2 Actionable Improvement Plan

None

Standard III.C Evidence List

Links to evidence are available at www.goldenwestcollege.edu/accreditation2011-2012.

- 3.C.1._01: AV CS Spring 2012
[AV_CS_Spring2012.pdf](#)
- 3.C.1._02: Schedule of Deployment
[ScheduleOfDeployment.pdf](#)
- 3.C.1._03: Computer Lab Replacement Schedule
[ComputerLabReplacementSchedule.pdf](#)
- 3.C.1._04: Computer Lab Utilization Reports Web Page
https://research.gwc.cccd.edu/labs/reports_index.html
- 3.C.1._05: Paid Invoice with List of Equipment
[PaidInvoiceWithListOfEquipment.pdf](#)
- 3.C.1._06: List of Instructional Lab Software
[ListOfInstructionalLabSoftware.pdf](#)
- 3.C.1._07: Email from Shirley dated February 6, 2012
[EmailFromShirleyDatedFeb6_2012.pdf](#)
- 3.C.1._08: Virtual Private Network
[VirtualPrivateNetwork.pdf](#)
- 3.C.1._09: GWC Wireless Networking Procedures and Guidelines
[GWCWirelessNetworkingProceduresAndGuidelines.pdf](#)
- 3.C.1._10: Campus Wireless Map
[CampusWirelessMap.pdf](#)
- 3.C.1._11: CAMPUS BULLETIN BOARD
<http://campus.gwcnews.com/>
- 3.C.1._12: Graphics Accreditation Response – email dated November 18, 2011
[GraphicsAccreditationResponseEmailDatedNovember18_2011.pdf](#)
- 3.C.1._13: Campus and School Microsoft Agreement
[CampusAndSchoolMicrosoftAgreement.pdf](#)
- 3.C.1._15: Banner Implementation Timeline
[BannerImplementationTimeline.pdf](#)
- 3.C.1.a.16: GWC Technology Master Plan, 2004
[GWCTechnologyMasterPlan2004.pdf](#)
- 3.C.1.a.17: GWC Technology Master Plan Update 2012
[GWCTechnologyMasterPlanUpdate2012.pdf](#)
- 3.C.1.a.18: Computer Lab Replacement Schedule
[ComputerLabReplacementSchedule.pdf](#)
- 3.C.1.a.19: Notice to Bidders Calling for Bids, MDF Bids
[NoticeToBiddersCallingForBidsMDF_Bids.pdf](#)

- 3.C.1.a.20: Email Inergen
[EmailInergen.pdf](#)
- 3.C.1.b.21: Community Services Schedule of Workshops Web Page
<http://gwccommunityservices.com/workshops/>
- 3.C.1.b.22: Online Training Provided to Faculty at GWC
[OnlineTrainingProvidedToFacultyAtGWC.pdf](#)
- 3.C.1.b.23: Online Faculty Training Materials 2007-2012
[OnlineFacultyTrainingMaterials2007_2012.pdf](#)
- 3.C.1.b.24: Technology Survey Results Spring 2012
[TechnologySurveyResultsSpring2012.pdf](#)
- 3.C.1.b.25: Voyager End User Training Web Page
<http://www.cccd.edu/voyager/training/training.aspx>
- 3.C.1.c.26: GWC Educational Master Plan, 2011
[GWCEducational_Master_PlanSp2011.pdf](#)
- 3.C.1.c.27: Coast Community College District Educational Master Plan- Vision 2020, Appendix H.2- Technology Plan, 2011, pp. 85-97
[CoastCCD_Vision2020_EMP_TechnologyPlanAppendixFa2011.pdf](#)
- 3.C.1.c.28: GWC Technology Master Plan, 2004
[GWCTechnologyMasterPlan2004.pdf](#)
- 3.C.1.c.29: GWC Technology Master Plan Update 2012
[GWCTechnologyMasterPlanUpdate2012.pdf](#)
- 3.C.1.c.30: Computer Lab Replacement Schedule
[ComputerLabReplacementSchedule.pdf](#)
- 3.C.1.c.31: GWC Technology Operating Expenditures (TOE) 2009
[GWCTechnologyOperatingExpendituresTOE2009.pdf](#)
- 3.C.1.c.32: GWC Technology Operating Expenditures (TOE) 2012
[GWCTechnologyOperatingExpendituresTOE2012.pdf](#)
- 3.C.1.c.33: Voyager Project Software Suite Web Page
<http://www.cccd.edu/voyager/default.aspx>
- 3.C.1.c.34: Coast Community College District Educational Master Plan- Vision 2020, Appendix H.2- Technology Plan, 2011, pp. 85-97
[CoastCCD_Vision2020_EMP_TechnologyPlanAppendixFa2011.pdf](#)
- 3.C.2.01: Voyager Project, District Continuous Improvement Team Web Page
<http://www.cccd.edu/voyager/ContinuousImprovementTeam.aspx>
- 3.C.2.02: Program Review Forms, Directions, and Results 2006, 2008, 2010 and 2012 Web Page
<http://goldenwestcollege.edu/wpmu/oir/institutional-effectiveness/program-review/>
- 3.C.2.03: Voyager Project Enhancement Projects List Web Page
<http://www.cccd.edu/voyager/projectList.aspx>