

Community College of Philadelphia

2009-2012 Technology Strategic Plan



Security / Privacy
Business Continuity Planning
Technology Infrastructure
Communications
Teaching and Learning

Prepared by the Technology Coordinating Committee

Final Version

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FY10 Updates- June 2010

FY11 Updates – May 2011

FY12 Updates – June 2012

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Introduction

The 2004-2008 Technology Strategic Plan, served to articulate and implement a coherent and systematic response to the current and future information technology needs of the College. The work that was accomplished throughout this planning cycle established an infrastructure to effectively maintain, enhance, and support student learning and student service delivery through technological advancement and innovation. The current state of information technology at the Community College of Philadelphia is indeed capable and well-prepared to support the College's goal of providing student success and a "Path to Possibilities".

Over the past four years, access to computer technology has greatly increased in both number and efficiency for all constituencies at all campus locations. The infrastructure expansion brought wireless capabilities to the main campus as well as all three regional centers. Network reliability and capacity were upgraded and extended to all offices and classrooms college-wide. The previous Plan goal to ensure that faculty, staff, and students have equitable and appropriate access to technology to meet their teaching, learning, information, and communication needs has been accomplished.

The OASIS Project provided the College with an array of web-self-service tools for students, faculty and staff alike. The implementation of Banner as an integrated ERP solution, starting with Finance in 2003 and HR/Payroll/Admissions in 2004, ended during this planning cycle with the implementation of the Student system in 2005. The relational database back-end of this system now provides the College with data for analysis and management reporting. The expansion of web-based services for students and staff has grown throughout this plan cycle.

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The Fall term of 2008 gave our new students access to their MyCCP portal accounts before their first registration. This access allowed them to self-schedule placement testing and registration events. This was expanded in Spring 2009 by the efforts of the Counseling Department in the use of computer labs as advising locations for new students. The Counseling staff instructed these new and developmental students in how to register via MyCCP and Banner self-service.

Overall, the activities of the 2003-2007 Plan, reflect an obvious effort on the part of the College to use technology to meet the demands of the community. The implementation of the VoIP system to replace the 20-year-old telephone switch is proof that the College is striving for tomorrow. This new VoIP system has allowed the College to extend telephone service into all classrooms on all sites thus providing a new method of broadcasting vital messages in cases of emergency.

In addition to adding technology resources to assist in teaching and learning, the College engaged in ensuring compliance with new e-litigation standards. E-mail messages are archived now for e-discovery purposes and the College has engaged assistance in ensuring that document and electronic media meet legal retention standards.

The IT Audit performed by the College's external auditing firm challenged the Security/Ethics section of the previous Plan. The audit confirmed that the College is using best practices by ensuring little risk to financial or personal data. A few items were noted concerning the need to embrace the best practices standards around password security and disaster recovery. Both of these issues are covered in the new plan.

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This new 2009-2012 Technology Strategic Plan will bring back to the table a concentration on security & privacy, business continuity and disaster recovery planning, growth and expansion of the infrastructure, a further attempt to improve communication and a focus on the technology needs of teaching and learning.

The overarching goal of this plan will be to embrace emerging technologies by bringing them into the teaching/learning spaces developed through the Campus Expansion projects. These enhancements will bring focus to new technologies as well as those recently implemented technologies that the College has yet to fully utilize.

The VoIP system is an example of a system that has yet to be fully explored. The speech recognition system associated with our VoIP implementation has provided enhancement to staff and student services through the use of voice driven choices via the telecommunications system. This system will be further extended to provide mass calling to students for notifications and announcements. In addition, the music/announcements-on-hold feature of the system can be utilized to ensure we are marketing services and events.

Another area still experiencing growth is the College's re-entry into local broadcast services via Channel 53. The Audio Visual department of the College has recently engaged in the re-vitalization of CCPTV. This system provides the College with the opportunity to explore delivery of learning and informational content into our teaching/learning spaces and the community.

The 2009-2012 Technology Strategic Plan will provide for input from all constituents within the college community. As the College engages in the Campus Expansion projects the challenges will

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be to provide appropriate technology planning to ensure all teaching learning/student/customer/client service functions are prepared for the future demands of the community.

The technology vision represented by this plan intends to promote the mission of the College by preparing students for the world in which they will be living and working. To help meet this overarching goal, technology must support the teaching/learning environment and connect with external constituencies. As a result, effective and efficient uses of technology will help create a more cohesive college community and will help present the College as a leader in educating our students in becoming engaged global citizens and leaders.

As with all College Strategic Plans, this is a “living document” that must be as fluid as the technology it attempts to represent. To meet the expectations of the Generation Y or Millennials the college community must continue to engage in change management activities that support the forward momentum demanded by the technologies that will begin to integrate into campus life, administrative and student services and the teaching/learning environment of the future.

This plan represents the current expectations of technology with a driving force toward enhancing the future through recognition of technology as a tool not a solution. The outline of goals and objectives are summarized in the matrices section. The details for each objective concerning expectations, anticipated completion date and area of responsibility are listed in the matrices and are current as of this date; August 30, 2009. Progress will, as with all plans, be updated on the Technology Coordinating Committee web site; <http://www.ccp.edu/tcc/>.

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I. PRIVACY/SECURITY

GOAL: To ensure the privacy, integrity and ethical use of information resources by faculty, staff, students and community members.

- **FY12 (2011-2012) Update Goal I: Privacy/Security**
Banner PII security has been implemented and the College's Firewall and IDS devices were upgraded in FY12. The Infrastructure Refresh Project provided the opportunity to upgrade the DMZ of the College network to ensure we are protecting locally stored data.. This involved the replacement of the all IDS (Intrusion Detection System) and Firewall equipment.
 - **FY11 (2010-2011) Update Goal I: Privacy/Security**
The College continues to work within the context of changing laws and privacy concerns involving electronic data. The 4ITSupport/Bantasks request center has implemented a procedure of not distributing data/information requests to non-CCP domain email addresses. The ITS department continues to implement Banner PII security and an upgrade to the College firewall is pending during Q1 of FY12.
 - **FY10 (2009-2010) Update Goal I. Privacy/Security**
Working within the context of the changing laws and privacy concerns around electronic data/information, the College has completed the objectives related to this goal. They are all assumed to be ongoing needs.
- A. Objective: Evaluate existing security and privacy policies to ensure they align with new/pending legislation and current best practices.
- A.1. Complete analysis of appropriate information resource policies and procedures to align with best practices.
 - A.2. Conduct an annual audit of the security program.
 - A.3. Conduct privacy and security awareness training for all community members.
- **FY12 (2011-2012) Update: On going – Security audits are performed quarterly to ensure compliance. Reviews of Banner security are routinely audited by the external auditing firm; KPMG. Again in 2012, KPMG has suggested that a response trail from the end-users providing security information is obtained. ITS will develop a web-based form for tracking of this information.**
 - **FY11 (2010-2011) Update: In progress and ongoing.** *Security audits are performed quarterly to ensure compliance. Professional development sessions on awareness were held in FY11 and will continue to be offered.*
 - **FY10 (2009-2010) Update: Complete & Ongoing-** *In conjunction with the Office of the General Counsel, all the appropriate policies have been reviewed and updated as they pertain to the privacy of information. ITS conducts security audits quarterly to ensure the security of college-wide information systems. This audit is reviewed by the external auditing firm. Professional Development is working with ITS and General Counsel to provide awareness training to the college community concerning information privacy issues.*
- B. Objective: Review existing security and privacy controls in critical systems to ensure accessibility of personal information follows the principle of least privilege.

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- B.1. Restrict accessibility of personal information stored within the ERP.
 - B.2. Explore techniques or technologies to encrypt or mask data in non-production application environments
 - B.3. Explore techniques or technologies to encrypt and protect database (Oracle and SQL) data files
 - ***FY12 (2011-2012) Update: The Banner PII implementation is complete. The team also accomplished the implementation of an encrypted file transfer (SFTP) solution; MoveITDMZ. This server provides for encrypted data transport point-to-point using the Internet. The team continues to explore enhanced data protection and personal information security strategies through the implementation of Active Directory.***
 - *FY11 (2010-2011) Update: Ongoing. The Information Support Services team continues to implement more enhanced security controls related to the ERP; PII and masking of informational fields.*
 - *FY10 (2009-2010) Update: Complete & Ongoing- The Information Support Services team has implemented initial security controls within the ERP to ensure privacy of personal identifiable information. All personal information is restricted or masked to ensure the privacy of students and staff.*
- C. Objective: Identify the e-discovery needs of the College.
- C.1. Develop an e-discovery plan related to the retention of data in the following areas:
 - i. ERP data
 - ii. Brio metadata
 - iii. Network data
 - iv. Email
 - 1. Determine how the use of outsourced email vendors affects the litigation process.
 - 2. Develop an appropriate policy concerning use of non-college domains for inter-campus communications.
 - v. Local storage
 - vi. Telephony¹ issues; i.e., voicemail archival needs
 - vii. Course materials
 - ***FY12 (2011-2012) Update: Ongoing as stated in FY10 & FY11. Network & ERP data storage continues to be retained via tape archive and online at the DR site (NERC) via De-Duplication. Tape storage will be reduced in FY13 to assist in cost saving measures. Email continues to be archived via an appliance for 3 years. Course materials remain a topic of discussion.***
 - *FY11 (2010-2011) Update: Ongoing as stated in FY10. Data retention of ERP data is ongoing; Network data is retained via tape and De-Duplication; email retention is managed through an appliance providing a 3-year policy; telephony backups and archiving is managed on an as needed basis and a new implementation of Telstrat Engage will provide recording of phone calls on demand; Course Materials remain as a discovery topic in the Academic Affairs division.*

¹Telephony is the technology and manufacture of telephone related equipment.

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- *FY10 (2009-2010) Update: Complete & Ongoing- All ERP and associated application data files are stored electronically via on-site SAN solutions and through a vendor supported tape backup system. The storage of the backup tapes is secured with Iron Mountain. Email is currently archived with a 3-year roll-off policy to maintain the e-litigation standards. Vendor support email archiving can be acquired for a 10-year period of retention. Backup of the Nuance voicemail system has been improved and is now verified quarterly. All network data is included in the general backup solution for the College. Local desktop data remains at risk of loss.*

- D. Objective: Define the compliance requirements both internally and regulatory and their impact on the College use of data.
 - D.1. Engage in cooperation with the College General Counsel, the review of all document retention standards for both electronic and paper.
 - D.2. Engage in cooperation with the College General Counsel, the review of the following regulatory changes for their impact to the College.
 - i. Red Flag Rule
 - ii. HEOA
 - iii. FERPA
 - iv. HIPPA
 - v. E-Discovery

- ***FY12 (2011-2012) Update: Completed as stated in FY11. As the College moves to a new document management system (BDMS) during FY13, the document retention schedule will be implemented.***
- *FY11 (2010-2011) Update: Complete and ongoing – A finalized document containing document retention schedules for all College office has been distributed. Document Retention within the OnBase Document Imaging system will be implemented by October 2011.*
- *FY10 (2009-2010) Update: Complete & Ongoing- The Office of the General Counsel developed and has circulated a DRAFT of paper/electronic document retention standards for each area of the College. These standards will be incorporated into the retention scheme of the document imaging system in the future.*

II. CONTINUITY PLANNING AND DISASTER RECOVERY

GOAL: To ensure that the College ITS department is both prepared and able to respond effectively in the event of a business interruption or a situation where ITS personnel are inaccessible.

- ***FY12 (2011-2012) Update: The DR room at the NERC was completed in January 2012. The DR servers and backup schema have been defined and testing of scenarios is ongoing.***
- *FY11 (2010-2011) Update: Partial implementation occurred in FY11. The DR room at the Northeast Regional Center is in progress and setup of IT equipment is complete and the environmental needs are being identified and solutions are being analyzed and implemented. With the IT equipment in place, FY12 will see the implementation of DR exercises involving the fail-over equipment of critical IT services.*

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- *FY10 (2009-2010) Update: Planning complete, Implementation pending, Ongoing- In coordination with the College's Planning & Finance Division and the Emergency Response Management Team, Information Technology Services is working to ensure that the College will be able to maintain critical business functions in any emergency situation.*

- A. Objective: Establish and document an ITS divisional business continuity plan.
 - A.1. Create a divisional ITS business continuity plan that encompasses ISS and TSS.
 - A.2. Identify and document recovery point objectives and recovery time objective for critical systems.
 - A.3. Establish a central electronic repository of procedural documentation for key processes.
 - A.4. Conduct awareness training for ITS staff about the business continuity plan.
 - A.5. Update the master hardware and software inventory to assure identification and inclusion of all key assets.
 - A.6. Ensure that adequate insurance coverage is secured to allow for replacement of hardware and software.
- ***FY12 (2011-2012) Update: Planning of response drills and procedures are underway. The ITS DR plan is being updated and a completion date of Fall 2012 is anticipated.***
- *FY11 (2010-2011) Update: In progress and ongoing. Awaiting completion of DR site in the NERC (HVAC and UPS issues under implementation). Cyber insurance issues are under review by Risk Manager, General Counsel and CIO.*
- *FY10 (2009-2010) Update: In progress and ongoing. The document recovery points have been established for critical systems. The hardware and software inventory has been updated. Risk Manager continues to handle insurance coverage needs. The ITS BCP draft continues in development, awaiting completion of the NERC Disaster Recovery site. Electronic repository and DR site completion anticipated Fall 2010.*

- B. Objective: Schedule and conduct planned tests of the ITS divisional continuity plan
 - B.1. Review existing backup and recovery processes and procedures for comprehensiveness and appropriateness and improve where necessary.
 - B.2. Test recovery procedures to confirm procedures satisfy recovery time and recovery point objectives.
 - B.3. Implement a schedule of and conduct planned tests of portions of the ITS divisional continuity plan.
 - B.4. Explore capabilities for end user testing of applications and key systems from off-site locations
- ***FY12 (2011-2012) Update: 1) The review of existing backup procedures is underway. Associated with this endeavor is the review of all backup information. The DR/BCP Team is currently reviewing all backup detail and eliminating unnecessary data from the backup. During this review, identification of critical data is being done to ensure recovery of business critical data. 2) Recovery testing is conducted on a weekly basis by both the DBA and the Network Admin. These tests are documented in the DR/BCP minutes. Items 3 & 4 continue to be in progress. A schedule of testing is being developed and the next test of recovery***

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from the DR site will be in July during our normally scheduled downtime. We continue to explore the development of testing applications.

- *FY11 (2010-2011) Update: This objective is pending the completion of the NERC DR site.*
 - *FY10 (2009-2010) Update: Completed and Ongoing – The ITS yearly audit verifies the existence of the backup and recovery process of both the ERP and network data. The backup and restore exercises are conducted quarterly by ISS and TSS. ITS is awaiting completion of NERC DR site for actual exercise of failover testing involving end-users.*
- C. Objective: Establish a methodology for regular review and update of the ITS divisional business continuity plan as services provided by ITS to the community change.
- C.1. Implement a formal change management process, including approval, notification and documentation procedures.
 - C.2. Implement a regularly scheduled formal review of the ITS divisional business continuity plan.
 - C.3. Review the business continuity plans and contingency plan testing of any service provider or vendor providing recovery services.
- ***FY12 (2011-2012) Update: Underdevelopment in FY12. The DR/BCP Team which meets biweekly has been charged with these procedures. 1) A Formal change management procedure has been developed and is in place and utilized by the DR/BCP Team. 2) This will be accomplished on a quarterly basis. 3) All service provider recovery plans are on file and have been reviewed by the DR/BCP Team.***
 - *FY11 (2010-2011) Update: Pending – no progress in FY11.*
 - *FY10 (2009-2010) Update: Completed and ongoing – The establishment of a committee to review and assess the projects presented to ITS for development or implementation. This would include a discovery phase, a planning phase, and an approval process from executive level management. Following approval, the committee would act to execute, monitor and inform stakeholders of project priorities. This approach would be related to all ITS projects, i.e., hardware, software, or development tasks.*
- D. Objective: Evaluate and implement technologies that will increase flexibility in the capabilities of ITS to address recovery needs as they arise.
- D.1. Explore data de-duplication as a method of ensuring recovery of critical business processes.
 - D.2. Explore server virtualization as a method of ensuring recovery of critical business processes.
 - D.3. Explore voice and data redundancy as a method of supporting critical business operations.
 - D.4. Explore telecommunication services, such as CallPilot, zone paging, emergency broadcasting, to be used as methods of communicating recovery efforts.
- ***FY12 (2011-2012) Update: Data Duplication has been implemented for a 2 year period. We have been successfully utilizing the disk backup source for recovery testing and are reducing our reliance on tape backup. This continues to be a method of backup and recovery.***
 - *FY11 (2010-2011) Update: Data de-duplication has been added to the backup processes of all college data. This enhances the tape library still being used. Server*

virtualization has been purchased and is awaiting implementation at the NERC DR site (pending resolution of HVAC and UPS issues). Voice system redundancy has been implemented via the NERC. Further enhancements to this system for total fail-over capability are under review.

- *FY10 (2009-2010) Update: Ongoing and in progress – The implementation of a de-duplication system as a fail-over strategy has been investigated and the expenditure has been approved for FY11. Implementation will be post the completion of the NERC DR site. The virtualization of server environments within the new NERC DR site is still under investigation. The fiber ring which extends to all campus locations is now redundant with fail-over testing complete. This ring supports all voice and data traffic for the College. Emergency communication methods have been utilized during the mock drills and continue to be reviewed, tested and enhanced.*

III. TECHNOLOGY INFRASTRUCTURE

GOAL: To maximize existing infrastructure resources in a manner that will support growth and expansion efforts while sustaining existing services.

- ***FY12 (2011-2012) Update: Completed. The refresh of all network equipment was accomplished during the FY12 fiscal year. All MDF and IDF equipment has been upgraded and replaced.***
- *FY11 (2010-2011) Update: FY11 2010-2011 was used to plan and build the RFP needed for the infrastructure refresh project approved by the Board. The purchases did not occur in FY11 as planned but dollars have been rolled in the FY12 budget. The RFP is currently awaiting completion and implementation is planned to begin during the first quarter of FY12 and continuing through the fourth quarter.*
- *FY10 (2009-2010) Update: During 2009-2010 extensive discussions and planning sessions involving the voice and data infrastructure needs of the College were held among cabinet, the executive cabinet, the Technology Coordinating Committee and the executive management team of ITS. These discussions included the day-to-day support of services and the growth and expansion needs of the College. Many of the objectives are ongoing but several have been met or redesigned to ensure success.*

- A. Objective: Maximize existing network resources for academic and administrative pursuits
 - A.1. Implement traffic shaping to give priority to traffic in support of academic and administrative efforts
 - A.2. Evaluate the implication of the convergence of voice and data and implement identified solutions
 - A.3. Implement secure printing for faculty and staff
 - A.4. Improve in the kiosk systems for student use.
 - i. Increase the availability of ADA accessibility for all campus location kiosks.

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- A.5. Review the need for expansion of web-based services and social networking services in support of student success initiatives
- A.6. Support administrative priorities relating to data collection and analysis.
- A.7. Develop a project management procedure that aligns with College priorities and functions.
- ***FY12 (2011-2012) Update: (1&2) A full evaluation of converged Voice and Data and a Network traffic study was performed as part of the Infrastructure refresh project and the College adopted “best practices” approaches to develop standards and models for QOS on ALL College infrastructure switches, routers and firewalls that has negated any impact previously deemed problematic at the previous implementation of VOIP. Additionally, the Network redesign offers significant redundancies and allows for priority traffic management across the entire campus. (3) An updated printing pilot – GO Print was implemented in the library and continues to be tested into FY12/13 in conjunction with the CBord One Card solution, a Pay for Print management solution will be implemented first in the Main Campus and Northeast Regional Center Library/Learning Commons areas as well as the main campus Student Academic Computing Center (SACC). The chosen solution, GoPrint, will provide the College with the ability to allow printing in a controlled environment. The College One Card pre-loaded with “CCP Bucks” will allow student printing based on their course load. A machine as well as a web interface will allow students to add to their printing capability through our Campus One Card. A Cabinet initiated Workgroup will provide guidance to the implementation during FY13. (4) Ongoing as required within the new construction and renovation areas. (5) AUP #307 was approved by the IWC and Dr. Curtis. (6) Ongoing development of reporting needs and dashboards. (7) Project priorities were again approved at the cabinet level and are now fitting into a middle states assessment format.***
 - *FY11 (2010-2011) Update: (1&2) SIP trunking was abandoned in FY11 due to the lack of vendor support and hardware/software functionality. The College returned to the PRI solution. (3) The secure printing pilot tested in FY11 failed and as a result a new product was identified and purchased. The new solution, GoPrint, is associated with the OneCard solution, CBord. A pilot is planned for the summer in the library resources centers of main campus and the NERC. (4) All-in-One touch screen units continue to be deployed as student kiosks throughout all sites. The use of the adjustable pole mounting solution in conjunction with Facilities is working well. (5) A Social Networking section for the AUP #307 has been developed and is pending review by the IWC and approval of the President. (6) The ITS department continues to support the data needs of the College through development of Dashboards and reports. (7) Prioritization of projects continued in FY11 through the development of a document detailing all projects. This document has been discussed at Cabinet and priorities assigned. New tasks/projects will be added in FY12 and reviewed by Cabinet to ensure the strategic priorities are being addressed.*
 - *FY10 (2009-2010) Update: (1 & 2) Traffic shaping as related to the convergence of voice and data, intended as a part of the SIP implementation, has been delayed due to poor vendor support. A recent solution may become available to the College and provide support for this objective. (3) Secure printing for faculty and staff has been evaluated in the pilot mode during the last several months. To-date the solution*

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has performed in an unreliable manor. The College is currently exploring new solutions. (4) Student kiosks were updated on a small scale in the West Building. These touch-screen systems are pole mounted and provide a viable alternative to existing kiosk models. (5) The TCC has begun the review of social networking tools to enhance student success initiatives. (6) All efforts to support the collection of data relating to the administrative priorities have been ongoing throughout the year. Achieving the Dream and Early Alert are prime examples. (7) The management of projects became so numerous during FY10 that a prioritization system was devised to provide realistic results for end-users. The process has the buy-in of those cabinet areas that are requesting service or service enhancements aligned with the overall goals of the College's Strategic Plans.

- B. Objective: Maximize efforts to implement new infrastructure components and adapt existing infrastructure components in an environmentally responsible way
- B.1. Explore alternate methods, such as Power over Ethernet, of providing power to network devices
 - B.2. Ensure appropriate allocation and stability of universal power for all data and/or voice closet locations
- **FY12 (2011-2012) Update: POE switches are now the norm for all Cisco gear. The Infrastructure Refresh project provides this capability for all network gear now. All Nortel switches have been removed from service.**
 - *FY11 (2010-2011) Update: POE continues to be implemented for VoIP system expansion in new construction and renovation. MDF and IDF cooling issues are being addressed as construction and renovation work continues.*
 - *FY10 (2009-2010) Update: (1) The exploration of POE is complete and has been partially implemented through the VoIP system. Future implementations will include wireless POE access points. (2) An ongoing item related to renovation and construction schedules.*
- C. Objective: Improve technology review, procurement and installation process.
- C.1. Improve the lease replacement cycle through examination of the lease standard equipment in relation to the equipment spec of 2009.
 - i. Develop an inventory system that encompasses the lease replacement cycle for all systems.
 - ii. Develop a tracking system that enhances the inventory system to ensure reports are as accurate as possible.
 - C.2. Integrate infrastructure and technology reviews into the management of capital projects
- **FY12 (2011-2012) Update: The lease replacement cycle of workstations is under review and is associated with the build of the workstation inventory. This is ongoing by the TSS, Academic Technology and Office of Budgets. The integration of technology requests into the capital budget process was accomplished.**
 - *FY11 (2010-2011) Update: New equipment specifications have evolved and continue to be reviewed through the lifecycle of the lease replacement scheme. The faculty and staff lease deployments continue on a monthly basis. ITS will begin working with the budget office to improve the lease replacement process, ensuring adequate equipment is available to all as related to job duties.*

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- *FY10 (2009-2010) Update: A new comprehensive lease replacement cycle for faculty, staff and classroom workstations has been defined. Approximately 40-50 workstations per month are being deployed to faculty and staff. A re-evaluation of leasing periods based on role of the user has begun.*

- D. Objective: Increase accessibility to public internet and College intranet
 - D.1. Increase the wireless capability for all campus areas.
 - D.2. Improve the capability for Intranet connectivity for all staff and faculty while away from the campus wide area network.
- **FY12 (2011-2012) Update: WiFi capability was increased during through the PBI/STEM grant funding. The Pavilion and Winnet building are equipped with 802.11n AP's providing faculty, staff and students will high-speed WiFi access. Ap's (WiFi access points) have been upgraded in the Bonnell building. The new NERC campus is fully WiFi enabled at 802.11n.**
- *FY11 (2010-2011) Update: The NTIA funding was not obtained; denied by the grant authority. The College is however attempting to fund this initiative through smaller projects. A new 802.11n wireless implementation was completed at the NERC in FY11 as part of the construction and renovation process. Wireless access for the Winnet building been purchased through the PBI grant funding and will be implemented this summer. In addition, wireless access has been added to IAS room to allow Board meeting to connect wireless devices while in session.*
- *FY10 (2009-2010) Update: The recent inclusion of the College in the NTIA Broadband Application process appears promising for the support of wireless connectivity for all main campus and regional centers within the next 3-years. The College expansion project for the NERC is heavily invested in the implementation of wireless access for the entire NE existing and new buildings.*

- E. Objective: Leverage available application functionality by implementing existing components or extending available functionality to accommodate implementation of new technology in critical business processes.
 - E.1. Support the increase of student retention rates by developing letters to communicate status and reports to identify students with early warning indicators.
 - E.2. Support student services by providing necessary assistance to implement self-service functionality for a paperless admissions application process and student compliance requests and what-if analysis.
 - E.3. Support student services by providing necessary assistance to support additional tuition payment options.
 - E.4. Support student services by providing additional secured, self-service components as critical to assist the enrollment management services as a "single point of service" process
- **FY12 (2011-2012) Update: An Early Alert system was developed by ITS for the Student Life division. It is being utilized to identify at risk students. Emails are being generated at 20% and 50% points. Students can view their personal Early Alert indicators at any time through MyCCP. Automation of the partial drop was completed. POT auto-drop is still under discussion. A Summer Payment Plan was developed and is in place for Summer 2012. The Enrollment Center effort has been supported by ITS. As business processes have changed with the**

development of Enrollment Central, ITS is working on a discovery process to enhance the automation of process. The Bill Rewrite now provides the student with a PDF view of their bill which is not a summary but a detailed bill for the semester. All Admissions applications are paperless.

- *FY11 (2010-2011) Update: The support of the Early Alert/Check-up initiatives continued in FY11. Phase 1 of the Student Billing Rewrite project was completed for the Summer/Fall registration period. This allows for partial class drops for students in multiple parts of terms. Manual at this time, it will be automated for the Spring 2012 registration/payment cycle. A new, easier to understand student bill has also been completed and utilized for the Summer/Fall registrants. Efforts to support the Enrollment Management Plan continue.*
- *FY10 (2009-2010) Update: The support of student retention and early alert system development is completed as requested to this point. Further enhancements have been requested and are ongoing in the development stage. The in progress Billing Rewrite project is another support structure that will offer student clarity in student billing by part-of-term and provide payment due dates based on part-of-term. Support for the single point of service web interface concept is being developed through the spring 2010 go live of the MyCCP portal redesign. All of these items are an ongoing effort to meet the various technical goals within the Enrollment Management Plan.*

IV. COMMUNICATION

Promote information sharing among all College constituents through the use of technology-enhanced tools.

- ***FY12 (2011-2012) Update: All objectives were reviewed during the year and some were completed while other were modified to better suit the needs of the College. We gained acceptable of the Social Media addition in the AUP #307, IT is utilizing the Professional Development office to assist in communicating our mission, and MyCCP continues to undergo scrutiny.***
- *FY11 (2010-2011) Update: All objectives falling within this goal are partially complete, in progress or ongoing depending on the timing as noted within the matrices at the end of this document. The individual updates are noted below.*
- *FY10 (2009-2010) Update: All objectives falling within this goal are partially complete, in progress or ongoing depending on the timing as noted within the matrices at the end of this document. In general, the TCC and the ITS department have been working to provide the impetus to move communication issues to the forefront of the discussion in the context of technology delivery.*

OBJECTIVES:

- A. Review and/or develop policies/guidelines to facilitate communication and the use of technology to promote communication college-wide.
 - A.1. Establish a policy on appropriate use of wikis, blogging, text messaging, virtual worlds
 - A.2. Establish a policy on approved communication protocols based upon targeted audience (student, employee, faculty, staff, other).

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- ***FY12 (2011-2012) Update: The Social Media section of AUP #307 was approved and is now posted on the P&P site of the College. A Workgroup was engaged to develop the guidelines around message approval to the college community. ITS has developed a web form to provide electronic access to the announcement process. Today only Student Life is utilizing the form but plans are to move into the approval of all messages by the end of the summer of 2012.***
 - *FY11 (2010-2011) Update: (1) A new section of the AUP #307 detailing College policy for Social Networking/Media has been developed by the TCC, General Counsel, and the CIO. The section is awaiting review by the IWC at the May 2011 meeting. (2) The committee charged with reviewing the communication procedures has met and the development of a new process for staff communications will be placed into production during the Fall of 2011.*
 - *FY10 (2009-2010) Update: (1) ITS and the Office of the General Counsel have drafted language for the AUP #307 concerning social networking. The TCC is at the review stage. (2) A draft proposal concerning communication strategies moving away from CNews and Listserv broadcasts is under development by the CIO for presentation to the President's Cabinet. Protocols for Campus and Personal announcements within the MyCCP environment are currently driven by ITS but are being discussed at a higher-level to determine appropriate protocols. A small committee consisting of ITS and Student Life representatives are currently in progress of defining such protocols around student communication.*
- B. Provide improved information sharing from Information Technology Services to the College Community
- B.1. Establish a policy regarding the appropriate timeliness of information sharing from ITS to the community concerning technology-related issues or events
 - ***FY12 (2011-2012) Update: The ITS department is now utilizing the Professional Development week to provide open sessions where the college community can ask questions related to technology. The departmental goals are details and have been shared with the Extended Cabinet and the document was posted on the 4ITSupport web site.***
 - *FY11 (2010-2011) Update: The ITS website is live and continues to be updated as needed. A redesign will be planned and implemented for Spring 2012.*
 - *FY10 (2009-2010) Update: The implementation of a website based on the College's ITS department will related directly to this objective. Expected go live date September 2010.*
- C. Provide improved web services to the college community
- C.1. Develop a centralized point of contact for all technology issues
 - C.2. Develop an ITS website
 - i. Robust; one that provides information for all users, student; staff and faculty. Include appropriate system status updates, current project highlights, upcoming project plans, FAQs, procedural how-to documentation, training calendar, suggestions box, etc.
 - C.3. Improve the online communications ability for individuals and groups associated with the College.

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- i. Evaluate options for a communications and collaboration suite.
 - **FY12 (2011-2012) Update: The SPoC model has been further implemented through the 4ITSupport model. All questions, requests, and information now come through a single point. We continue to work on the development of a collaboration space within ITS as detailed in C.3.**
 - *FY11 (2010-2011) Update: The SPoC model has been fully implemented. The ITS department has combined the faculty, staff and student call center into a single unit under the direction of the Director of ISS. In conjunction with the TSS team, the SPoC concept continues to be enhanced through use of an external vendor and staffing the call center with targeted skill-sets to improve the issue resolution. Enhancements are continually being implemented as the Support Center reviews reports and follows up with users to gain insight on improvements in service.*
 - *FY10 (2009-2010) Update: The SPoC model implementation has been initiated (Spring 2010). The faculty, staff and student Help Desks has been converted into a single unit which is supported by the break-fix technicians and the support of our off-site phone vendor PCHelps. This ITIL model of customer service and IT best practices will be an ongoing initiative.*

- D. Provide a standard email/calendaring system for the College
 - D.1.Review all email systems currently in-use by the College constituents and the legal ramifications associated with that use.
 - D.2.Determine an email system as a standard.
 - D.3.Implement the standard across all college constituents.
 - D.4.Develop policies/guidelines that are required for litigation issues.
 - D.5.Develop and communicate the lack of privacy when using email.
 - D.6.Develop standards for students in the use of email; netiquette.
 - D.7.Develop standards for staff & faculty in the use of email; netiquette.
 - D.8.Implement an appropriate email and web site disclaimer process.
- **FY12 (2011-2012) Update: The migration to Active Directory is in progress. The selection of a hosted email/calendaring solution for all faculty members and staff is underway. The implementation of R25 is also providing the College with a Community Calendar for events.**
- *FY11 (2010-2011) Update: (1, 2 &3) The Google email solution for faculty and staff awaits the implementation of an Identity Management Solution to ensure integrity of information in the external cloud environment. IDM solutions have been evaluated but have proved to be incompatible with the eDirectory provided by Novell. FY12 will be the planning and implementation of Microsoft Active Directory (AD) which will replace Novell. This decision is necessary due to the decline of support for Novell as a total solution for file, print and email. This implementation will bring the needed standard across all constituents of the college. (4-7) Ongoing and under review as the AD migration is developed and implemented. (8)Completed for all mail messages delivered outside the College domain and via our Listserv.*
- *FY10 (2009-2010) Update: (1 & 2) Following a review of the possible outsourced cloud email solutions, Google has been determined as the best solution for the entire college. (3) Implementation requires an Identity*

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Management solution to ensure authentication and security. Discussions with vendors have begun. Implementation timeline anticipated Fall 2010-Spring 2011. (4-7) Ongoing process as we move into the next stage of cloud outsourcing of email. (8) An email disclaimer has been in place since FY09 for all electronic messages outbound from the College email service. Limited implementations of web disclaimer pages have been developed for those College sites with links to sites outside the college domain.

- E. Perform a review and redesign process on the MyCCP portal to promote student communication
 - E.1. Implement analytics/tracking of portal pages to understand how portal is used.
 - E.2. Upgrade portal software to current version to take advantage of new functionality in the area of security and targeted communications.
 - E.3. Develop new roles as determined by the review and needs of the community.
 - E.4. Review the login page for the portal to ensure communication of important information.
 - E.5. Review Channel administration and guidelines.
 - E.6. Review all channel content for duplication and consistency with ccp.edu campus-wide web site.
 - E.7. Review all roles associated with the portal and associated tab-level views.
- **FY12 (2011-2012) Update: The upgrade to Luminis V is in progress. This upgrade will enhance many features within self-service. The merger of Datatel and SungardHE delayed this implementation.**
- *FY11 (2010-2011) Update: (1) Google analytics continue to be used and will be further enhanced as the web redesign project continues.(2-7) Completed FY10.*
- *FY10 (2009-2010) Update: (1) A limited set of Google analytics are being used within MyCCP links to assist in determining usage statics. Broader coverage is planned when development time permits. (2) Completed January 2010 – Luminis version 4.x (3) Completed to date as requested by user community: new student, applicant, guest, continuing student. (4) Completed January 2010. (5) In progress (6 & 7) Review & redesign complete January 2010*

V. The TEACHING/LEARNING INSTRUCTIONAL RESOURCES

GOAL: Promote appropriate use of and access to technology by faculty and students in conjunction with the goals outlined in the Academic Master Plan.

- **FY12 (2011-2012) Update: Promoting access to technology has moved forward in multiple ways during FY12. The pending implementation of a new LMS signals the recognition that teaching and learning tools are changing. The Dean of the FLOAT Division has made multiple strides in working with Facilities and IT to ensure that classroom design is looking forward. Training of faculty has continued and overall the measures of success indicate that the College is recognizing the need for technology support in the teaching and learning environment.**

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- *FY11(2010-2011) Update: Increased access to technology for both faculty and students provided by the purchasing and installation of 40 new smart podiums to increase the current classroom capabilities for classroom presentations; and, re-design of and increased capacity of computer classrooms on Main Campus, NERC and WPRC. Continued promotion of appropriate use of technology provided by Academic Computing via their website providing access to professional development materials, a blog, and coordination of technology-related seminars with the Office of Professional Development.*
- *FY10 (2009-2010) Update: This section is dependent on Academic Affairs which has not provided sufficient updates to reflect the June 2010 status. Overall progress has been made in some areas under the direct control of ITS as noted below.*

OBJECTIVES:

- A. Provide technological hardware adequate to meet instructional needs of faculty.
 - A.1. Inventory all faculty offices to determine hardware needs based on individual patterns of use.
 - i. Develop a lease replacement strategy for faculty offices.
 - ii. Develop a needs assessment to ensure appropriate hardware and software is available in faculty offices.
 - 1. Provide a scheduled refresh of assessment information.
 - iii. Provide updated hardware as dictated by the needs assessment.
 - A.2. Determine future hardware needs of faculty in their offices and provide it based on priority (example: microphones, speakers, cameras, storage devices, etc. needed to create course materials or to allow distance education faculty to work more effectively from campus offices)
 - A.3. Determine hardware needed to meet faculty duties for work performed outside of their offices (conferences, committees, meetings, etc).
 - A.4. Address faculty needs for archiving previous semesters' course materials.
 - A.5. Ensure building facilities are adequate to meet the needs of technological hardware in offices.
- **FY12 (2011-2012) Update: The FLOAT department and ITS have worked in collaboration on the technology needs of faculty in the learning environment. This is an ongoing process that includes the implementation of Smart Podiums, Smart whiteboards are coming in FY13, the LMS RFP is complete and a new LMS will be implemented in the Fall of 2012.**
- *FY11 (2010-2011) Update: (1) This continues to be under review for an improved method of ensuring appropriate equipment is deployed and priorities are developed. (2 & 3) Academic Technology and ITS met to collaborate on a survey instrument to determine user level for various academic entities to assist in providing appropriate technology to support instructional activities. (4) Increased seminar offerings on the use of Consolidated Courses within MyCCP to facilitate using archived materials for concurrent classes as well as subsequent semesters. Distance Education began offering the WebStudy Learning Management System as a 'course supplement' which also provides archival opportunities.*
- *FY10 (2009-2010) Update: (1) Completed by ITS. A replacement scheme has been developed for all faculty offices and deployments are in progress. (2-3)*

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Dependent on Academic Computing implementation of a survey tool. (4) Reliance on the My Courses portal tool appears to be the chosen vehicle for archiving course material however, not all faculty utilize this electronic tool. The Distance Education Director is promoting the use of WebStudy as the LMS tool which is better suited to this practice. Course documents stored locally on faculty workstations remains at risk since these are not backed up. The push for faculty to utilize network storage to ensure the integrity of backup is supported. (5) Planning & Finance, working with Facilities Management and Academic Affairs, is in progress in the development of office standards to facilitate the technology needs of faculty.

- B. Provide standard software configuration to all faculty offices
 - B.1. Determine a standard software configuration necessary for a faculty member.
 - B.2. Inventory all faculty offices to determine software needs.
 - B.3. Install the standard software to all faculty offices following a priority timetable.
 - B.4. Ensure faculty has access to the same software that students do in computer labs and classrooms.
 - B.5. Address software needs and provide support to help faculty manage electronic communication and electronic course materials more efficiently
- **FY12 (2011-2012) Update: Ongoing as stated in FY11. ITS continues to work with Academic Technology on improving this process. As we move from Novell to Active directory, we will have the ability to provide software via virtualization which will allow for apps to “follow” the user.**
- *FY11 (2010-2011) Update: A standardized software image is prepared for each faculty office workstation. This master image is appended to meet the individual faculty software needs in order to support specific curriculum needs within a discipline. Academic Computing communicates with the various academic departments utilizing specialty software and shares this information with ITS for specific office deployment. Academic Computing has developed a series of training seminars to create faculty awareness and effectiveness in using the standardized software installed on the faculty workstations.*
- *FY10 (2009-2010) Update: A standardized software image is prepared for each faculty office workstation. This master image is appended to meet the individual faculty software needs in order to support specific curriculum needs within a discipline. Academic Computing has responsibility for supporting specific software requests from faculty and for providing seminars to support faculty in the use of this software.*
- C. Provide specialized software to faculty offices based on departmental needs
 - C.1. Consult with each department to determine any specialty software necessary.
 - C.2. Inventory affected faculty offices to determine software needs.
 - C.3. Install specialized software, as necessary, following a priority timetable.
 - C.4. Assess need for lecture capture technology and implement based on need.
- **FY12 (2011-2012) Update: Ongoing assessment continues of faculty needs. As technology moves forward, new innovations become available. The College is currently exploring SMART board technology. The FLOAT division is planning the implementation of 10 classrooms in FY13. ITS will be part of the implementation.**

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- *FY11 (2010-2011) Update: See the update for Objective B within this section. An electronic webinar dealing with the issue of lecture capture technology was offered to the faculty in May, 2011 and this information will be disseminated throughout the summer series of workshops offered by Academic Computing.*
 - *FY10 (2009-2010) Update: See the update for Objective B within this section.*
- D. Provide convenient access to secure printing from each faculty office
- D.1. Inventory existing printer network configurations in regards to faculty offices.
 - D.2. Ensure faculty members have access to printers on each floor near their offices
- **FY12 (2011-2012) Update: We have continued the deployment of personal laser printers for faculty offices. The loss of the West Build Access Center (W2-AC) has increased the deployment need.**
 - *FY11 (2010-2011) Update: Individual laser printers have been installed into of many faculty offices over the last year to address security concerns of printing sensitive materials to a common printer. This is an ongoing project.*
 - *FY10 (2009-2010) Update: Inventory completed. Faculty printer needs are being addressed through pre-existing faculty access center printer capture and personal printers within each office.*
- E. Provide support and training for teaching duties of faculty members inside and outside of the classroom
- E.1. Provide centralized support staff that can respond to a comprehensive range of faculty questions about hardware and software use.
 - E.2. Promote faculty awareness of ongoing training issues provided by support staff
 - E.3. Recruit faculty and staff with an expertise in specific software to serve as volunteer to help other faculty members.
- **FY12 (2011-2012) Update: (1) The ITS Call Center is providing this support. (2 & 3) Academic Technology and the FLOAT Division are supporting the training needs of the faculty. They also support the informational needs of faculty when exploring new software.**
 - *FY11 (2010-2011) Update: (1) Responsibility of the 4ITSupport Call Center. (2) Academic Computing publicizes and conducts a variety of training workshops dealing with topics from basic computer literacy through specialized software uses. Publicity achieved via e-mail and publication to the College-wide professional development calendar. Academic Computing website has been refreshed with new links to professional development materials and dates and a new blog with regular updates to such information. (3) Informal alliances have been developed within academic departments using specialty software allowing collegial sharing of "tips and tricks" to new software titles. Standardized software training is available through Academic Computing regularly scheduled training seminars.*
 - *FY10 (2009-2010) Update: (1) Responsibility of the ITS Help Desk. (2) Academic Computing publicizes and conducts a variety of training workshops dealing with topics from basic computer literacy through specialized software uses. Publicity achieved via e-mail and hard copy flyers delivered to college mailboxes. (3) No progress to date.*

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- F. Provide support and training to maximize ability of faculty members and others in academic affairs to manage multiple duties (for example, committee work, advising, library duties, time management, course archiving, etc.)
- F.1. Provide training and ongoing support in the use of current and future hardware and software.
 - F.2. Inventory faculty needs for new kinds of training.
 - F.3. Develop training sessions to increase employee effectiveness in the use of existing hardware and software.
- **FY12 (2011-2012) Update: Academic Technology provides support for this objective. The Academic Computing web site provides information on training events.**
- *FY11 (2010-2011) Update: (1 & 3) Academic Computing offers ongoing professional development workshops on a variety of topics to assist faculty in these endeavors. All workshops are advertised via e-mail and published on the college-wide professional development calendar and are open to all college employees. Academic Computing offers a training series developed in concert with specific goals and needs of various departments such as Bursar's office and Counseling. (2) A formal topics survey has not been created or administered.*
- *FY10 (2009-2010) Update: (1 & 3) Academic Computing offers ongoing professional development workshops on a variety of topics to assist faculty in these endeavors. (2) A formal topics survey has not been created or administered.*
- G. Teaching/Learning Spaces – Design flexible classroom and other teaching spaces that facilitate the appropriate, effective use of technology
- G.1. Create and provide lighting design that allows flexible, multiple options for image projection and viewing.
 - G.2. Provide furniture that allows flexible configurations for both individual and group work that may include traditional teaching methods and/or technology-enhanced instruction.
 - G.3. Design and install environmental systems (e.g., HVAC, etc.) with minimal sound levels that do not interfere with faculty/student communication.
 - G.4. Install classrooms controls (light switches, screen controls, etc.) that are accessible from the instructors' space in addition to the entrance to the space.
 - G.5. Manage cords, electrical outlets and other hardware in a safe and effective manner.
 - G.6. Place classroom accessories (clocks, writing surfaces, coat hooks, etc) so that they do not interfere with image projection and are also effectively used by both faculty and students
 - G.7. Provide a printing system with usage accountability and efficient, effective access to quality hard copy
- **FY12 (2011-2012) Update: With the creation of the FLOAT Division, the coordination of Academic Computing, MultiMedia Services and ITS is complete. The electrical controls are overseen by all the players mentioned above to ensure appropriate learning environments are created. This is an ongoing project as we work with the VP of Finance & Planning on the renovation of classroom space.**
- *FY11 (2010-2011) Update: (1, 2 & 6) Academic Computing attends (as a member or guest) a variety of planning meetings and college-wide committee meetings. In conjunction with Facilities and Multimedia Services, Academic Computing suggests*

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lighting designs for most effective use of digital projection, suggests classroom layout designs to facilitate the instructional process, and suggests furniture consistent with ergonomic and safety needs.(4 & 5) Academic Computing consults with Multimedia Services to coordinate installation and use of effective components of technology-rich classrooms. (7) Under review by ITS

- *FY10 (2009-2010) Update: (1, 2 & 6) Academic Computing attends (as a member, guest, or Chair) a variety of planning meetings and college-wide committee meetings. In conjunction with Facilities, Academic Computing suggests lighting designs for most effective use of digital projection. (4 & 5) Academic Computing also has multiple contacts with Multimedia Services to coordinate installation and use of effective components of technology-rich classrooms. (7) Under review by ITS.*

- H. Public Spaces – To create public spaces that provide for access and use of technology
 - H.1. Provide technology displays at high traffic locations to promote timely and effective communication among and between the College community and the world at large.
 - H.2. Provide ample, convenient electrical outlets to accommodate use of portable electronic devices.
- **FY12 (2011-2012) Update: As with the collaboration of FLOAT and ITS, the same effort is given to the collaboration of ITS and Facility/Construction Management. WiFi hotspots of 802.11n are now appears in all areas that have been renovated.**
- ***FY11 (2010-2011) Update: Public space created in the Northeast Regional Center renovation/construction have been outfitted with electrical outlets and the entire campus site is now on Wireless 80.11n. Future renovation efforts will continue to include these features.***
- *FY10 (2009-2010) Update: In progress through the Campus Expansion and Renovation projects.*

- I. Online Learning Environment—To create a virtual environment that facilitates the best teaching practices and learning options.
 - **FY12 (2011-2012) Update: FY12 (2011-2012) Update: The FLOAT Division created an RFP for the review of the Learning Management System (LMS) in the Spring of 2012. Six bidders were reviewed by a faculty & administration committee. The Board is being asked to approve the selection of CANVAS as the College’s new LMS. Please reference [Appendix A](#) of this document for information on the efforts to meet the objectives below. [Appendix A](#): Informational document created for the Board by Susan Hauck, Dean of Flexible Learning Options and Academic Technology.**
 - *FY11 (2010-2011) Update: See individual outcome updates below.*
 - *FY10 (2009-2010) Update: No updates provided at the time of this writing. Requested from Office of Distance Education without response.*
 - I.1. Provide enterprise-wide implementation of the course management system (CMS) as a component of every course offered by the College
 - ***FY11 (2010-2011) Update: In progress through a TCC sub-committee reviewing needs and possible solutions.***
 - I.2. Investigate and select a comprehensive, Open Source CMS that fully supports web-enhanced, hybrid and distance courses

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- ***FY11 (2010-2011) Update: In progress through a TCC sub-committee reviewing needs and possible solutions. Director of Distance Education leading this effort.***
- I.3. Provide enterprise-wide implementation of a comprehensive, real-time online learning environment including functions such as a whiteboard, two-way video, chat, etc. for online applications such as subject matter review, office hours, tutoring, and counseling
 - ***FY11 (2010-2011) Update: The implementation of the new Smart Podiums at all sites has created the ability to simulate the smart board technology. The Learning Lab has incorporated real-time web tutoring through Skype.***
- I.4. Evaluate, select, and integrate new and emerging online technologies into online learning, such as blogs, wikis, podcasting, lecture capture, voice activation, etc.
 - ***FY11 (2010-2011) Update: In progress through a TCC sub-committee reviewing possible solutions.***
- I.5. Integrate password-protected electronic Library resources into the CMS implementation for all College courses
 - ***FY11 (2010-2011) Update: In progress through a TCC sub-committee reviewing needs and possible solutions.***
- I.6. Provide web-based source to track regular Quality Matters™ reviews of online learning, including mandatory confirmation of compliance with review findings
 - ***FY11 (2010-2011) Update: In progress through a TCC sub-committee lead by Director of Distance Education.***
- I.7. Provide availability of all online learning components via portable electronic devices
 - ***FY11 (2010-2011) Update: In progress through a TCC sub-committee reviewing needs and possible solutions.***
- I.8. Explore the feasibility of providing all uses of online learning with a robust, cost-effective portable electronic device
 - ***FY11 (2010-2011) Update: In progress through a TCC sub-committee reviewing needs and possible solutions.***
- I.9. Evaluate, select, and integrate user authentication technologies in compliance with federal HEOA requirements
 - ***FY11 (2010-2011) Update: Director of Distance Education reviewing.***
- I.10. Provide a consistent, robust email system for all College users. This system should include storage and functionality equivalent to free e-mail sites, web-based access, collaboration tools, and synchronization with commonly available portable electronic devices.
 - ***FY11 (2010-2011) Update: In progress by ITS. Continued search for an Identity Management system allows ubiquitous access to all systems.***
- I.11. Provide access to streamed, web-based, multi-media files to support the teaching and learning process, including storage, and delivery of media created in-house or purchased commercially.
 - ***FY11 (2010-2011) Update: In progress through a TCC sub-committee reviewing needs and possible solutions.***

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- I.12. Provide a web-based resource to allow for regular, timely change of user passwords to enhance security of personal data
 - ***FY11 (2010-2011) Update: In progress by ITS. Continued search for an Identity Management system allows ubiquitous access to all systems.***
- I.13. Provide means for a single sign-on to the College portal that allows direct access to the Distance Education course management system
 - ***FY11 (2010-2011) Update: In progress by ITS. Continued search for an Identity Management system allows ubiquitous access to all systems.***
- I.14. Explore the availability of an online grade book system including the pass-through of data from the enterprise-wide CMS implementation to the College grade reporting system
 - ***FY11 (2010-2011) Update: No progress at this time.***
- I.15. Provide access for students to portal Groups to encourage collegiality and collaboration for educational, as well as social relationships
 - ***FY11 (2010-2011) Update: Pending implementation of group approval process within the Student Life area.***
- J. Expand technology access to students.
 - J.1. Assess the need for expanding availability and access hours when students can use non-wireless PC's for with network access
 - J.2. Provide a means to loan technological equipment (digital cameras, laptops, Kindles, etc) to students for school-related projects and activities
 - J.3. Expand computer lab facilities and support to assist students in the creation of digital media projects and portfolios for related to coursework and participation in campus organizations
 - J.4. Provide students with social networking tools to complement student organizations in student life
 - J.5. Assess student needs for accessing course content, registration, and other student services via handheld mobile devices, and implement accordingly
 - ***FY12 (2011-2012) Update: The WiFi hotspot implementation has provided access for students in the Library for both Main Campus and the NERC; the Winnet building, the Pavilion Building, the 2nd floor of Bonnell, the entire West Regional Center, and the entire NERC. Mobile delivery is under review by ITS.***
 - ***FY11 (2010-2011) Update: (2 & 3) Flip[®] video cameras are available through Multimedia Services for student use through appropriate faculty check out. New electronic podiums placed in 40 classrooms allow for student presentations of school-related projects to faculty and classes.***
 - ***FY10 (2009-2010) Update: (1) SACC operation transferred to Learning Lab authority. (2) In progress within specific disciplines – flip cameras are available through Media Services for student checkout. (3) Currently unaddressed or planned for the future.***
- K. Assess opportunities to expand broadband home access to students
 - K.1. Explore the possibility of providing student access in this area by seeking outside avenues of support, including City, business or grant funding

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- **FY12 (2011-2012) Update:** Funding from the PBI (STEM) grant has provided increased WiFi access for students on-campus. No program has been identified to support home connectivity.
- **FY11 (2010-2011) Update:** *In progress; ARRA funding did not materialize.*
- **FY10 (2009-2010) Update:** *In progress; ARRA funding for wireless initiative and KINBER project to support fiber connectivity between PA Community Colleges.*

2009-2011 Technology Strategic Plan Activity Matrices

The responsibility matrices are in draft form.

PRIVACY / SECURITY

ACTIVITY	TARGET DATE	AREA OF RESPONSIBILITY	RESOURCE ALLOCATION
A.1 Complete analysis of appropriate information resource policies and procedures to align with best practices.	Jan 2010	ITS ²	
A.2 Conduct an annual audit of the security program.	Annually with quarterly reviews	External Audit Firm, ITS	
A.3 Conduct privacy and security awareness training for all community members.	On going	Human Resources , Professional Development	
B.1 Restrict accessibility of personal information stored within the ERP.	In progress; Phase I May 2009, Phase II June 2010	ITS	
B.2 Explore techniques or technologies to encrypt or mask data in non-production application environments	In progress, June 2010	ITS	
B.3 Explore techniques or technologies to encrypt and protect database (Oracle and SQL) data files	In progress, June 2010	ITS	
C.1 Develop an e-discovery plan related to the retention of data in the following areas: ERP data; Brio metadata; Network data ;Email; Local Storage; Telephony ³ Issues; Course Materials	June 2010	ITS, General Counsel	

² Information Technology services department which includes Information Support Services (ISS) and Technology Support Services (TSS).

³ Telephony is the technology and manufacture of telephone equipment.

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ACTIVITY	TARGET DATE	AREA OF RESPONSIBILITY	RESOURCE ALLOCATION
D.1 Engage in cooperation with the College General Counsel, the review of all document retention standards for both electronic and paper	In progress through the GC's office	All College Divisions	
D.2 Engaged in cooperation with the College General Counsel, the review of the following regulatory changes for their impact to the College; RFR ⁴ , HEOA ⁵ , FERPA ⁶ , HIPPA ⁷ , e-Discovery ⁸ .	In progress through the GC's office	All College Divisions	

CONTINUITY PLANNING AND DISASTER RECOVERY

ACTIVITY	TARGET DATE	AREA OF RESPONSIBILITY	RESOURCE ALLOCATION
A.1 Create a divisional ITS business continuity plan that encompasses ISS and TSS.	Dec 2009	ITS	
A.2 Identify and document recovery point objectives and recovery time objective for critical systems.	June 2010	All College Divisions	
A.3 Establish a central electronic repository of procedural documentation for key processes.	Dec 2010	ITS	
A.4 Conduct awareness training for ITS staff about the business continuity plan.	Ongoing and quarterly	ITS	
A.5 Update the master hardware and software inventory to assure identification and inclusion of all key assets.	Ongoing; review quarterly	ITS	
A.6 Ensure that adequate insurance coverage is secured to allow for replacement of hardware and software.	In progress FY09	Risk Manager	
B.1 Review existing backup and recovery processes and procedures for comprehensiveness and appropriateness and improve where necessary.	Dec 2009	ITS	
B.2 Test recovery procedures to confirm	Mar 2010;	ITS and associated	

⁴ Red Flag Rule – identity theft protection regulation

⁵ Higher Education Opportunity Act

⁶ Family Educational Rights and Privacy Act

⁷ Health Insurance Portability and Accountability Act

⁸ Electronic Discovery

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ACTIVITY	TARGET DATE	AREA OF RESPONSIBILITY	RESOURCE ALLOCATION
procedures satisfy recovery time and recovery point objectives.	ongoing quarterly	business area	
B.3 Implement a schedule of and conduct planned tests of portions of the ITS divisional continuity plan.	Mar 2010	ITS	
B.4 Explore capabilities for end user testing of applications and key systems from off-site locations	Mar 2010	ITS and associated business area	
C.1 Implement a formal change management process, including approval, notification and documentation procedures.	Jun 2010	ITS	
C.2 Implement a regularly scheduled formal review of the ITS divisional business continuity plan.	Ongoing; Quarterly	ITS	
C.3 Review the business continuity plans and contingency plan testing of any service provider or vendor providing recovery services.	Annually	ITS, Finance & Planning, General Counsel	
D.1 Explore data de-duplication as a method of ensuring recovery of critical business processes.	Dec 2009	ITS	
D.2 Explore server virtualization as a method of ensuring recovery of critical business processes.	Dec 2009	ITS	
D.3 Explore voice and data redundancy as a method of supporting critical business operations.	Dec 2009	ITS	
D.4 Explore telecommunication services, such as CallPilot, zone paging, emergency broadcasting, to be used as methods of communicating recovery efforts.	Dec 2009	ITS	

TECHNOLOGY INFRASTRUCTURE

ACTIVITY	TARGET DATE	AREA OF RESPONSIBILITY	RESOURCE ALLOCATION
A.1 Implement traffic shaping to give priority to traffic in support of academic and administrative efforts	Jan 2010	ITS	
A.2 Evaluate the implication of the convergence of voice and data and implement identified solutions	Jan 2010	ITS	
A.3 Implement secure printing for faculty	FY11	ITS, Academic	

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ACTIVITY	TARGET DATE	AREA OF RESPONSIBILITY	RESOURCE ALLOCATION
and staff		Computing, Planning & Finance	
A.4 Improve in the kiosk systems for student use.	Summer 2010	ITS, Student Affairs, Facilities Management	
A.5 Review the need for expansion of web-based services and social networking services in support of student success initiatives	FY11	Academic Affairs, ITS, General Counsel, Student Affairs, Marketing	
A.6 Support administrative priorities relating to data collection and analysis	Ongoing	ITS	
A.7 Develop a project management procedure that aligns with College priorities and functions	FY10	ITS	
B.1 Explore alternate methods, such as Power over Ethernet, of providing power to network devices	In progress – June 2009	ITS	
B.2 Ensure appropriate allocation and stability of universal power for all data and/or voice closet locations	In progress; FY10 implementation	ITS, Facilities Management	
C.1 Improve the lease replacement cycle through examination of the lease standard equipment in relation to the equipment spec of 2009.	In progress; FY10	ITS, Facilities Management	
C.2 Integrate infrastructure and technology reviews into the management of capital projects	As needed ongoing	ITS, Planning & Finance	
D.1 Increase the wireless capability for all campus areas.	FY11	ITS	
D.2 Improve the capability for Intranet connectivity for all staff and faculty while away from the campus wide area network.	FY10 review; implementation FY11	ITS	
E.1 Support the increase of student retention rates by developing letters to communicate status and reports to identify students with early warning indicators.	Complete	Student Affairs, ITS	
E.2 Support student services by providing necessary assistance to implement self-service functionality for a paperless admissions application process and student compliance requests and what-if analysis.	In progress; CAPP pending May 2010	Student Affairs, ITS	

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ACTIVITY	TARGET DATE	AREA OF RESPONSIBILITY	RESOURCE ALLOCATION
E.3 Support student services by providing necessary assistance to support additional tuition payment options.	Oct 2009	Student Affairs, Planning & Finance, ITS	
E.4 Support student services by providing additional secured, self-service components as critical to assist the enrollment management services as a “single point of service” process	Jan 2010	Student Affairs, Facilities, ITS	

COMMUNICATION

ACTIVITY	TARGET DATE	AREA OF RESPONSIBILITY	RESOURCE ALLOCATION
A.1 Establish a policy on appropriate use of wikis, blogging, text messaging, virtual worlds	Sept 2010	TCC, IWC ⁹ , General Counsel	
A.2 Establish a policy on approved communication protocols based upon targeted audience (student, employee, faculty, staff, other)	Dec 2010	TCC, IWC, General Counsel	
B.1 Establish a policy regarding the appropriate timeliness of information sharing from ITS to the community concerning technology-related issues or events	Mar 2011	TCC, IWC, General Counsel	
C.1 Develop a centralized point of contact for all technology issues	Jan 2010	ITS	
C.2 Develop an ITS website	Jan 2010	ITS	
C.3 Improve the online communications ability for individuals and groups associated with the College.	June 2010	ITS, Marketing & Communications	
C.3.i Evaluate options for a communications and collaboration suite.	Dec 2010	ITS, TCC	
D.1 Review all email systems currently in-use by the College constituents and the legal ramifications associated with that use.	June 2010	ITS, General Counsel	
D.2 Determine an email system as a standard.	June 2010	Cabinet	
D.3 Implement the standard across all college constituents.	FY12	ITS	
D.4 Develop policies/guidelines that are	June 2010	General Counsel	

⁹ Institution Wide Committee

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	ACTIVITY	TARGET DATE	AREA OF RESPONSIBILITY	RESOURCE ALLOCATION
	required for litigation issues.			
D.5	Develop and communicate the lack of privacy when using email.	Ongoing; Aug 2009	Academic Affairs, Professional Development	
D.6	Develop standards for students in the use of email; netiquette.	Aug 2009	Academic Computing, Student Affairs	
D.7	Develop standards for staff & faculty in the use of email; netiquette.	Jan 2010	TCC	
D.8	Implement an appropriate email and web site disclaimer process.	Jan 2010	ITS, TCC, Cabinet	
E.1	Implement analytics/tracking of portal pages to understand how portal is used.	Jan 2010	ITS	
E.2	Upgrade portal software to current version to take advantage of new functionality in the area of security and targeted communications.	Jan 2010	ITS	
E.3	Develop new roles as determined by the review and needs of the community.	Jan 2010	ITS, Student Affairs, Academic Affairs	
E.4	Review the login page for the portal to ensure communication of important information.	Jan 2010	ITS, Student Affairs, Academic Affairs	
E.5	Review Channel administration and guidelines.	Jan 2010	ITS, Student Affairs, Academic Affairs	
E.6	Review all channel content for duplication and consistency with ccp.edu campus-wide web site.	Jan 2010	ITS, Student Affairs, Academic Affairs	
E.7	Review all roles associated with the portal and associated tab-level views.	Jan 2010	ITS, Student Affairs, Academic Affairs	

TEACHING/LEARNING INSTRUCTIONAL RESOURCES

	ACTIVITY	TARGET DATE	AREA OF RESPONSIBILITY	RESOURCE ALLOCATION
A.1.i	Develop a lease replacement strategy for faculty offices.	Dec 2009	Academic Computing, Planning & Finance, ITS	
A.1.ii	Develop a needs assessment to	Dec 2009;	Academic	

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	ACTIVITY	TARGET DATE	AREA OF RESPONSIBILITY	RESOURCE ALLOCATION
	ensure appropriate hardware and software is available in faculty offices. Provide a scheduled refresh of assessment information.	Quarterly	Computing, Planning & Finance, ITS	
A.1.ii.1	Provide a scheduled refresh of assessment information.	Quarterly	Academic Computing, ITS	
A.1.iii	Provide updated hardware as dictated by the needs assessment.	Ongoing per lease cycle	ITS	
A.2	Determine future hardware needs of faculty in their offices and provide it based on priority (example: microphones, speakers, cameras, storage devices, etc. needed to create course materials or to allow distance education faculty to work more effectively from campus offices)	Ongoing; Quarterly review	Academic Computing, ITS	
A.3	Determine hardware needed to meet faculty duties for work performed outside of their offices (conferences, committees, meetings, etc).	Ongoing; Quarterly review	Academic Computing, ITS	
A.4	Address faculty needs for archiving previous semesters' course materials.	June 2010	Academic Computing, ITS	
A.5	Ensure building facilities are adequate to meet the needs of technological hardware in offices.	June 2009	Academic Affairs, ITS, Facilities Management	
B.1	Determine a standard software configuration necessary for a faculty member.	Aug 2010; Quarterly review	Academic Affairs, ITS	
B.2	Inventory all faculty offices to determine software needs.	Aug 2010; Quarterly	ITS	
B.3	Install the standard software to all faculty offices following a priority timetable.	On going	ITS	
B.4	Ensure faculty has access to the same software that students do in computer labs and classrooms.	Quarterly review	ITS, Academic Computing	
B.5	Address software needs and provide support to help faculty manage electronic communication and electronic	Ongoing	Academic Affairs	

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	ACTIVITY	TARGET DATE	AREA OF RESPONSIBILITY	RESOURCE ALLOCATION
	course materials more efficiently			
C.1	Consult with each department to determine any specialty software necessary.	Quarterly	Academic Computing	
C.2	Inventory affected faculty offices to determine software needs.	Quarterly	ITS	
C.3	Install specialized software, as necessary, following a priority timetable.	Ongoing following C.1 & C.2	ITS	
C.4	Assess need for lecture capture technology and implement based on need.	Aug 2010	Academic Computing, ITS	
D.1	Inventory existing printer network configurations in regards to faculty offices.	Aug 2010	ITS	
D.2	Ensure faculty members have access to printers on each floor near their offices	FY11	Planning & Finance, ITS	
E.1	Provide centralized support staff that can respond to a comprehensive range of faculty questions about hardware and software use.	FY11	ITS	
E.2	Promote faculty awareness of ongoing training issues provided by support staff	FY11	Academic Computing	
E.3	Recruit faculty and staff with an expertise in specific software to serve as volunteer to help other faculty members	Ongoing	Academic Affairs, HR	
F.1	Provide training and ongoing support in the use of current and future hardware and software	Ongoing	Academic Computing	
F.2	Inventory faculty needs for new kinds of training.	Quarterly	Academic Computing	
F.3	Develop training sessions to increase employee effectiveness in the use of existing hardware and software.	Ongoing	Academic Computing, Professional Development	
G.1	Create and provide lighting design that allows flexible, multiple options for image projection and viewing.	In progress as detailed by campus expansion projects	Facilities Management, Academic Computing, Purchasing	

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ACTIVITY	TARGET DATE	AREA OF RESPONSIBILITY	RESOURCE ALLOCATION
G.2	Provide furniture that allows flexible configurations for both individual and group work that may include traditional teaching methods and/or technology-enhanced instruction.	In progress as detailed by campus expansion projects	Facilities Management, Purchasing
G.3	Design and install environmental systems (e.g., HVAC, etc.) with minimal sound levels that do not interfere with faculty/student communication.	In progress as detailed by campus expansion projects	Facilities Management, Purchasing
G.4	Install classrooms controls (light switches, screen controls, etc.) that are accessible from the instructors' space in addition to the entrance to the space.	In progress as detailed by campus expansion projects	Facilities Management, Purchasing
G.5	Manage cords, electrical outlets and other hardware in a safe and effective manner.	In progress as detailed by campus expansion projects	Facilities Management, ITS
G.6	Place classroom accessories (clocks, writing surfaces, coat hooks, etc) so that they do not interfere with image projection and are also effectively used by both faculty and students	In progress as detailed by campus expansion projects	Facilities Management
G.7	Provide a printing system with usage accountability and efficient, effective access to quality hard copy	FY10	Academic Computing, ITS, Purchasing, Planning & Finance
H.1	Provide technology displays at high traffic locations to promote timely and effective communication among and between the College	FY10	Facilities Management, ITS, AV ¹⁰

¹⁰ Audio Visual department

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	ACTIVITY	TARGET DATE	AREA OF RESPONSIBILITY	RESOURCE ALLOCATION
	community and the world at large.			
H.2	Provide ample, convenient electrical outlets to accommodate use of portable electronic devices.	In progress as detailed by campus expansion projects	Facilities Management	
I.1	Provide enterprise-wide implementation of the course management system (CMS) as a component of every course offered by the College	FY11-FY12	Academic Affairs, ITS	
I.2	Investigate and select a comprehensive, Open Source CMS that fully supports web-enhanced, hybrid and distance courses	FY11-FY12	Academic Affairs, ITS	
I.3	Provide enterprise-wide implementation of a comprehensive, real-time online learning environment including functions such as a whiteboard, two-way video, chat, etc. for online applications such as subject matter review, office hours, tutoring, and counseling	FY11-FY12	Academic Affairs, ITS	
I.4	Evaluate, select, and integrate new and emerging online technologies into online learning, such as blogs, wikis, podcasting, lecture capture, voice activation, etc	FY11	Academic Affairs, ITS, General Counsel	
I.5	Integrate password-protected electronic Library resources into the CMS implementation for all College courses	FY11	Academic Affairs, ITS	
I.6	Provide web-based source to track regular Quality Matters™ reviews of online learning, including mandatory confirmation of compliance	FY10	Academic Affairs	

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	ACTIVITY	TARGET DATE	AREA OF RESPONSIBILITY	RESOURCE ALLOCATION
	with review finding			
I.7	Provide availability of all online learning components via portable electronic devices	FY10-FY12	ITS, Academic Affairs	
I.8	Explore the feasibility of providing all uses of online learning with a robust, cost-effective portable electronic device	FY10-FY12	ITS, Academic Affairs	
I.9	Evaluate, select, and integrate user authentication technologies in compliance with federal HEOA requirements	FY10-FY12	ITS, General Counsel	
I.10	Provide a consistent, robust email system for all College users. This system should include storage and functionality equivalent to free e-mail sites, web-based access, collaboration tools, and synchronization with commonly available portable electronic devices.	FY11	ITS	
I.11	Provide access to streamed, web-based, multi-media files to support the teaching and learning process, including storage, and delivery of media created in-house or purchased commercially.	FY11	ITS, Academic Affairs	
I.12	Provide a web-based resource to allow for regular, timely change of user passwords to enhance security of personal data	FY10	ITS	
I.13	Provide means for a single sign-on to the College portal that allows direct access to the Distance Education course management system	FY10 Review FY11 Pilot FY12 Implementation	ITS, Distance Education, Academic Affairs	

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ACTIVITY	TARGET DATE	AREA OF RESPONSIBILITY	RESOURCE ALLOCATION
I.14	Explore the availability of an online grade book system including the pass-through of data from the enterprise-wide CMS implementation to the College grade reporting system	FY10	Academic Affairs, ITS
I.15	Provide access for students to portal Groups to encourage collegiality and collaboration for educational, as well as social relationships	FY10	ITS, Student Affairs, Academic Affairs
J.1	Assess the need for expanding availability and access hours when students can use non-wireless PC's for with network access	FY11	Academic Computing, Student Affairs, ITS
J.2	Provide a means to loan technological equipment (digital cameras, laptops, Kindles, etc) to students for school-related projects and activities	FY12	Academic Affairs
J.3	Expand computer lab facilities and support to assist students in the creation of digital media projects and portfolios for related to coursework and participation in campus organizations	FY11	Academic Affairs, Student Affairs
J.4	Provide students with social networking tools to complement student organizations in student life	FY11	Academic Affairs, ITS
J.5	Assess student needs for accessing course content, registration, and other student services via handheld mobile devices, and implement accordingly		Student Affairs
K.1	Explore the possibility of providing student access in this area by seeking outside avenues of support, including City, business or grant funding	FY11	Student Affairs, Academic Affairs

Appendix A

Learning Management System Recommendation (LMS)

Submitted to the Business Affairs Committee, June 20, 2012

The FLOAT Division and the Office of Distance Education are pleased to submit this recommendation for adoption of the Instructure Canvas learning management system.
<http://www.instructure.com/>

Why Change?

An LMS is defined as a web-based technology used to plan, implement, and assess the learning process. The Learning Management System (LMS) has strategic importance to the college as the primary platform for our Distance Education program, and as the future enterprise-wide application for teaching and learning.

Since the inception of online learning in 1998, CCP has used the WebStudy LMS. From very modest beginnings of a handful of online courses supported on a part-time basis by one faculty member, Distance Education at CCP now encompasses some 220 course sections each semester, taught by over 120 faculty members, totaling over 15,000 annual registrations, and supported by two full-time administrators. Online learning at CCP has become a central component of our activities, and will be integral into every aspect of the learning enterprise.

As a result of the dramatic changes in online learning in the last 14 years, we now find ourselves lagging behind other community colleges. Most colleges provide a single online platform for all varieties of online learning, whether face to face, hybrid, or online. CCP should aspire to this ubiquitous usage of the LMS. In addition, while Distance Education is one area where we are still experiencing enrollment growth, faculty at CCP have been cautious adopters. As noted in the National Community College Benchmark Project (http://www.ccp.edu/vpfin-pl/ir/ir_reports/ir_report_221.pdf) compared to other Pennsylvania community colleges, we offer fewer distance learning classes than most of our peers. While technology is not the only factor, the perception of WebStudy as difficult to master is certainly a contributing factor. With our contract for WebStudy ending on June 30, and in conjunction with the desire to provide a single enterprise-wide system, we took the opportunity to review the LMS marketplace. Our goal was to select the best available platform to enable our faculty to broadly adopt online learning technologies.

LMS Review Results and Recommendations

The LMS Action team that produced this recommendation based its unanimous decision on the data collected between January – May 2012, from demonstrations, vendor responses to a detailed RFP, online surveys, interviews with peer institutions, and user testing. Specifically, the review process consisted of:

- On-campus presentations by LMS vendors during the January 2012 Professional Development Week, open to the entire College community
- Distribution of a Faculty Survey to all CCP faculty on LMS usage and essential features
- Development and issuance of a Request for Proposal (RFP) to eight LMS vendors
- Evaluation of the completed RFP documents by a Review Team of 13 volunteers from CCP faculty, ITS, Purchasing, Distance Education, and FLOAT, using an evaluation instrument and follow-up questionnaire
- Detailed on-campus presentations to the Action Team by the finalist vendors

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- Hands-on testing of the finalist LMSs
- Consultations with online learning professionals at peer institutions that had recently performed a similar LMS evaluation, including Buck County Community College, Camden County College (NJ), Delaware County Community College, and Howard County College (MD)

This recommendation to adopt the Canvas LMS represents the results of the review process by unanimous agreement of the Action Team members.

Ease of Use

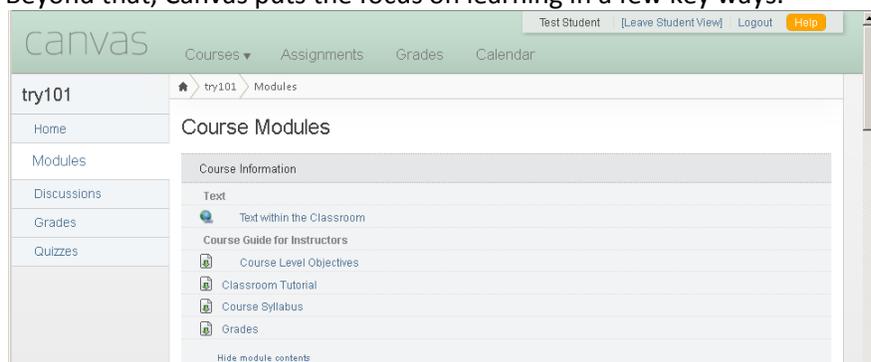
Canvas represents a new breed of LMS, with a simple, elegant interface that is easy for both faculty and students to intuitively use, including a welcoming “dashboard” that immediately alerts you to all recent activity. Arguably the most important aspect of any technology isn’t how many features it has, but how easy it is to use. It’s clear that one of the core principles of Canvas is user experience, which you can see immediately in its clean, uncluttered interface. Extra items don’t get in the way and important things are readily available. All the Canvas tools are fully ADA compliant, and they have received a Gold certification from National Federation of the Blind, the highest award given. With the help of ITS, we hope to integrate it into our portal, so there will be the same username and password on both systems. There is also integration with publisher websites.

Communication, Collaboration

Canvas is built around communication and collaboration. Communication happens with simple, Facebook-like private messaging and public discussion threads, course notifications that a student can opt to receive by Facebook, Twitter, or text message, and integration with TinyChat and BigBlue Button. Canvas has video/audio capability so the instructor can post any type of media into all content areas including Announcements, Discussion Boards, Assignments, Grades. Students have access to a free mobile app for iOS, and because Canvas is HTML5 compliant, it works well on all mobile browsers.

Focus on Learning

When user experience and communication are made easier, more time and attention can be devoted to actual teaching and learning. This isn’t a minor point. Most LMS’s are so cumbersome and confusing that the majority of training is spent explaining how to accomplish basic tasks. Beyond that, Canvas puts the focus on learning in a few key ways.



Rubrics lay out the objectives for an assignment and criteria for grading, and can be tied to outcomes. The Speedgrader and rubric functions provide a wonderful connection to the teaching/learning process; instructors can efficiently complete grading, while students can be engaged in the process (through video/audio/text comments back to their instructors) and playing “what-if” scenarios to determine how to achieve

their ideal grades. The learning outcomes tool will potentially transform the way CCP approaches outcomes assessment. It simplifies the process of tracking students and their progress on individual course and program outcomes. Outcomes can be established by any administrative level

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(i.e., college wide, division or program level, course level, section level, and attached to individual assessment items).

Costs

One time Implementation fee: Includes SIS Integration, SSO, branding, training	\$12,000
First year of a 5 year contract: (average over 5 years: \$205,794, which includes a 5% escalation rate)	\$186,218
Premium Support: Includes 8 hour response time, dedicated account manager, 24/7 phone support for admin	\$37,244
Total	\$235,462

Conclusion

With its intuitive, innovative interface, pedagogically driven applications, instructional resources, mobile technology, and user engagement, Canvas is the best choice for CCP's new learning management system. As the college seeks to improve in academic excellence and student success, Canvas is the LMS that will best support our efforts.