

# QUEENSBOROUGH **CU** COMMUNITY COLLEGE **NY**

## Technology Plan

2011-2015



Dr. Diane Call

Interim President

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## **Introduction**

The 2011-2015 Technology Plan was developed to frame the College vision of technology and its relationship to our mission and Strategic Plan. Developed in this context, the Plan reflects on technology advances since the 2005 Plan, and includes the results of a fall 2010 Technology Survey of our faculty and staff. The Plan also offers a future view of the applications and challenges of technology, and the issues we face to sustain and grow its use and effectiveness in and out of the classroom.

This plan is intended to be dynamic and therefore to evolve as technological advancements occur. It is virtually certain that technologies we have no idea about today will emerge during the next five years, and therefore this plan must undergo and annual review each year.

The Plan represents a vision for the next five years, but does not set forth what should be done in each year of the five-year period. Rather, the Technology Plan is intended to be used as a planning resource for the College, to inform the Strategic Plan and the Resource Planning and Allocation Process.

Appointed by Interim President Dr. Diane Call, The Technology Plan Committee members, representing a variety of campus constituencies, included:

- Ms. Sherri Newcomb, Vice President for Finance and Administration
- Dr. Karen Steele, Interim Vice President for Academic Affairs
- Dr. Philip Pecorino, Professor
- Dr. Joseph Bertorelli and Professor Alexandra Tarasko, Faculty Executive Committee
- Dr. Edward Volchok, Chair of the Academic Senate Committee on eLearning
- Dr. Amy Traver, Chair of the Academic Senate Committee on Computer Resources
- Mr. George Sherman, Executive Director of Information Technology
- Mr. Bruce Naples, Director of the Academic Computing Center

The Technology Committee would like to thank a number of non-Committee members who contributed to this plan: VP Zins, William Faulkner, Arthur Corradetti, Jeanne Galvin, Meg Tarafdar, Dion Pincus, Susan Curtis, Ben Freier, and Ed Molina.

This document was crafted and refined over a year through a consultative process that involved faculty, staff, students, and representatives from our campus governance bodies. The committee membership was drawn to be inclusive and reflective of those involved with both infrastructure and applications of technology. The survey of faculty and staff was formulated from our strategic and ongoing planning process, as well as from the College's mission statement. Through broadcast emails to the campus community and to students, the draft Technology Plan document was available for review through a link on the College web site. Finally, an open forum publicized through email to the College community was held to review the plan, discuss its themes, and incorporate comments raised by faculty and staff in attendance. This spring, several committees of the Academic Senate were invited to discuss issues in the draft Technology Plan. Where those comments were expressed to the Technology Plan Committee, they were considered in the last edit of the Technology Plan. The final document was received by the Academic Senate of Queensborough Community College in May 2011.

## **I. Background—History and Recent Technological Advances**

### **∇ 2005-2009 Technology Plan**

The 2005-2009 Technology Plan has been a valuable tool for guiding technology's growth at Queensborough. The Plan called for a network infrastructure capable of delivering wireless Multimedia applications. The College wireless network was upgraded to the latest "N" standard. The Plan anticipated the need for increased bandwidth in every lab and every classroom, and those connections have been upgraded to the latest 1 Gigabit speed. Faculty development for the creation of online courses was another priority. This was met with the training of instructional staff in the use of Blackboard software. The Plan anticipated the need for expansion of the Storage Area Network (SAN), and it has been completed. Seventy-nine individual, power consuming servers have been replaced with an efficient Blade Center server.

The survey that gave direction to the Plan indicated strong support for the creation of Multimedia Classrooms. To date, more than 50 multimedia classrooms have been built with instructional technology that includes a computer, projector, screen, document camera, DVD player and sound system. Twelve mobile multimedia podiums, containing the same equipment, have been assembled and are in daily use across the campus. The College's responsibility to supply current software licensing was also strongly supported by the survey. By the end of the spring 2006 semester all campus computer facilities had hardware and software replaced, bringing them up to current standards. A desire to make portable computing devices available to students was also noted in the survey. In response, more than 125 laptops were purchased for use by students in the Library, the learning centers, and academic departments.

Many of the goals established in the Plan were supported by the Student Technology Fee, and various grants.

## **II. Vision of the College as it Relates to Technology—what is and what will be**

### **∇ The Mission Statement and Technology**

The College's Mission Statement offers a commitment to both academic excellence and rigor and to providing great opportunity for student success in an open admissions environment. The Mission statement recognizes that the College must provide bridges across this potential gap. The main attempts to do this are through: a close linking of academic and student support services; through a strong focus on community college pedagogy; and through Freshman Academies.

Technology comes into play in both areas. Student support services need to be tied closely to academic work, and technology can facilitate this. Primary examples would include developmental labs and e-tutoring, and new initiatives, such as Freshman Academies, eLearning and ePortfolios.

To support our best practices-based application of pedagogy, as well as to facilitate our research efforts in this area, wise use of technology is also required. Examples would include Blackboard, hybrid instruction and asynchronous work, as well as the equipment contained in teaching/learning locales such as the multimedia classrooms.

### **∇ Strategic Plan**

#### **Where We Are Now**

The 2005-2006 Strategic Plan stated that the College would implement the Technology Plan we develop this year. Included in the 2004-2005 Strategic Plan were goals of increasing the frequency of student use of computer technology and student satisfaction with their access to computer technology, in both cases indicated by their responses to the City University of New York (CUNY) Student Experience Survey. These goals were met and continue to hold true today.

As a vanguard College, Queensborough cut over to the CUNYfirst (Enterprise Resource Planning) system for Student, Registrar, Bursar, and Financial Aid processing in November 2010. Although it has been a challenge, the College has found many innovative ways to make this new system a success.

Other Strategic Objectives in the 2005-2009 timeframe that the College has met are:

- Creating an online option for ST100
- Using the College Web site to promote Freshman Academies
- Transitioning to Degree-Works as our online Advisement system

- Increasing the number of Blackboard course sections beyond 363. The number today is 1141
- Developing the College Web site to become a primary vehicle for information for prospective /continuing students and parents
- Increasing the use of online applications for non-degree students

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### Looking Forward

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The College's Strategic Plan for 2012 speaks to technology in several ways. It states that:

- The "Center for Excellence in Teaching and Learning (CETL) and the Academic Computing Center (ACC), under the direction of the Interim Vice President for Academic Affairs, will support faculty and instructional staff development in pedagogy, using educational technology, while continuing to study its effectiveness." The need to continue and deepen that process will require certain types of technological and training decisions
- The campus will make timely progress on CUNYfirst implementation
- The Art Gallery Website is to be redesigned
- A Web page will be created to present scholarship information and facilitate scholarship applications
- Web site Meta Tags will be Optimized to increase the ranking of Queensborough' academic programs in search engines

### ▽ Survey Results

In 2010 the Technology Plan Committee conducted a survey of all constituents including Full & Part Time Instructional Staff, non-Teaching Instructional Staff, and Support Staff at Queensborough. A total of 388 replies were evenly split between those who taught in the classroom and those who did not. For a look at some of the more significant results please see **Appendix II**. To see the entire survey results please look on the College Web site at [http://www.Queensborough.cuny.edu/Governance/technology\\_plan.asp](http://www.Queensborough.cuny.edu/Governance/technology_plan.asp)

### ▽ Technology – A Definition

Technology means different things to different departments and curricula. For example, Nursing, Chemistry, Physics, Electrical Technology, Mechanical Technology, and Biology might envision technology differently from the general population of the college. Technology can be defined as the tools and machines that help to solve problems. For the purpose of this plan, we define technology to include all electronic devices and software that are used to teach our students and to run our administrative operations. This includes, but is not limited to, computing, measuring, and mechanized devices.

### ▽ Funding

Availability of funding is an essential component of any plan. Funding for the initiatives and projects of this Technology Plan is expected to come from various sources, including the Student Tech Fee, CUNY special project funding, City, State, Federal and institutional grants, and the College operating budget.

For example, during each of the past few years the Student Tech Fee has provided more than \$2 million for technology-related expenditures. This is a multi-year expenditure plan which ensures, for example, that equipment used by students is no more than four years old. Each year a detailed Student Technology Fee Expenditure Plan is finalized and approved by the College Tech Fee Committee. It is then made available for viewing on the College Web site. The Student Tech Fee will continue to be a major source of funding as this Technology Plan goes forward.

It is expected that grant funds, such as those from the Carl D. Perkins Act, will continue to be a source of revenue supporting this Technology Plan's objectives. Historically, Perkins grants have made more than \$250,000 available each year for educational technology related projects in qualified academic programs.

**While this Technology Plan establishes many goals and objectives, it is understood that successful outcomes are contingent upon the availability of appropriate funding and staffing levels.**

### III. Incorporation of Technology

#### ▽ Students

##### Where We Are Now

The workplace of today continues to demand employees who are fully conversant with the acquisition and presentation of information using technology. Not surprisingly, these advances have become widespread at Queensborough over the past few years. As such, it has become increasingly necessary for students to become adept at using the increased technological resources at the College.

The use of the Internet for research and the implementation of software have become a large focus of an increasing number of courses; and we can expect those needs to increase in the future. The student email system (Tiger Mail) has become the primary method of communication among all students, staff and faculty, but that needs to become even more prevalent. In addition to computers in facilities such as the Library, the Student Learning Center and Campus Writing Center (SLC & CWC), and Academic Computing Center (ACC), a number of Internet-connected computers have recently been placed in the Student Union, enabling students to check and send email and do online course-work.

Students must become more aware of, and gain skills with, the recently increased number of online resources including: Library Databases; partly and fully online classes and the learning management systems they use (Blackboard & Epsilon); ePortfolios; the CUNY Portal, & CUNYfirst. Students are using the wireless network, present throughout the campus, on an ever-increasing basis, with portable devices and in teaching areas such as labs where hard-wiring is problematic. Increased also is the number of computer labs and multimedia classrooms as well as the use of student response systems (clickers). And, as always, all of this technology needs to be serviced, staffed and maintained.

##### Assessment of 2005-2009 Technology Plan Objectives

###### Fully Implemented

- The ACC, in conjunction with Students Services, will continue to offer student workshop training covering the email and Blackboard systems.
- Materials will be developed and disseminated at student orientation covering the technical services available at the College
- Web site Frequently Asked Questions (FAQ) materials, related to the email and Blackboard systems, will be refined and improved
- Through the Tiger Mail initiative the college will use email as a major means of communicating and disseminating information to students.
- The Information Technology (IT) Department will introduce a new service (Tiger Briefcase) that allows students to store files of their developing work on network storage for retrieval both on and off campus.
- The IT department will continue to staff a Tiger Mail Hot Line phone number to help students with email questions. IT will also help students with CUNY Portal problems. *(Evening hours are now available on Tuesdays and Wednesdays to 7:00 PM.)*
- The ACC will continue to staff Blackboard support via **BBSupport@qcc.cuny.edu**
- Materials will be developed and disseminated, and tours (virtual and real) will be conducted during ST-100 classes to increase student awareness of available technology services. *(A completely online version of ST-100 has been developed, and Freshman First (now College 101) technology workshops are conducted each semester so that all incoming students begin their Queensborough career with activated Tiger Mail, ePortfolio, CUNY Portal and CUNYfirst accounts.)*

###### Partly Implemented

- Utilizing hand-held technology and leveraging the campuses existing wireless infrastructure, we will seek to enhance the initial freshman experience thru the implementation of an automated advisement/registration/financial aid queuing system. *(Although hand-held technology was not used, implementation of automated advisement, online advisement appointment scheduling, and financial aid systems [FA-TV] have been completed.)*
- Web site banners will be created in a “Did You Know” format to keep students aware of new and continuing technology services. *(While Web site banners have not been used for this purpose, the campus’*

*new digital signage system has kept all constituents aware of events as well as everything new and upcoming on campus.)*

#### **Not Implemented**

- Regular Web site surveys will be conducted to measure student awareness of campus technology services. *(Given the number of surveys already conducted, it was decided that adding more would represent an undue burden. Information about the College's technology services can be gleaned from existing surveys. For example, the latest Technology Plan Survey just completed gathers input from faculty and staff.)*

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#### **Looking Forward**

**Over the course of this Technology Plan (2011-2015) the College seeks to make major advances/enhancements to our technology culture. Objectives include:**

- All Staff members will be brought up-to-date as to office software usage— this can be done partly online in Blackboard and partly face-to-face in workshops. To implement this change successfully, retraining / updating of skills will become a valued/regular part of every department's plan
- Every teacher will be using some form of technology while teaching - Online like Blackboard & ePortfolio, Classroom Podiums, or Mobile technology
- Every teacher will have an updated computer on his/her desk with a cadre of software needed to enhance teaching.
- There will be a major focus on bolstering the Web Enhanced modality
- There will be a major focus on bolstering the Blended learning modality
- We will develop a comprehensive technology support system that includes: eTeam → Faculty Mentors → Students Mentors → Workshops → One-On-One Sessions → Online Support (Asynchronous & Synchronous)
- There will be a major effort to increase student engagement via Online Interaction and In-class response systems (clickers)
- There will be an implementation to CUNY's selected Synchronous technology
- The College will provide a space for faculty to test and share the use of new technologies
- CUNYfirst will become the familiar standard for running the college

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#### **▽ Student Development**

##### **Where We Are Now**

One very valuable component of the Tech Fee Plan at Queensborough is the **provisioning for and the utilization of Tech Fee Student Interns**. Since its inception in 2002, over 775 students have worked as paid interns in this program, and we anticipate the employment of over 100 in the coming year. They have been employed in a wide range of academic and administrative departments. Tasks they have carried out include: providing technical assistance in both student and faculty workshops especially related to the eLearning and ePortfolio programs; rebuilding computers; providing help desk service for other students; computer programming; photography; and video recording / editing. Students earn money on campus, gain valuable skills and resume enhancing work experience while they provide useful services to the campus.

A visit to the current Web site, a review of recent publications, or observing recent videos shows first-hand the talent within our student body. Current students and recent graduates are responsible for photographs on the home page and other Web pages, publications, newsletters and local news media; the recording and editing for online videos, some including student-created music; the graphic design and layout for several new publications; the staffing of the Tiger Mail / CUNYfirst help desk; and more.

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##### **Assessment of 2005-2009 Technology Plan Objectives**

###### **Fully Implemented**

- The Tech Fee Student Intern program will be continued. Funding for the program will continue to be provided through the Tech Fee.

###### **Partly Implemented**

- In developing this Technology Plan the College is presented with an opportunity to create its own "incubator" of student Web talent, an in-house creative agency for institutional marketing. This on-site talent bank would also be a laboratory of practical experience for students enrolled in Art and Photography,

Digital Art and Design, New Media Technology, even Music Electronic Technology. *(While no general student-talent incubator has been established, one unforeseen outcome of the Tech Fee Student Intern program has been the establishment of campus **Student Mentors**. They have provided invaluable assistance in both student and faculty ePortfolio workshops for the past three years. This past summer (2010) their work was further extended to provide assistance to faculty who are developing their online courses in the eLearning Faculty Development Institute. They also provided a valuable service in assisting other students in the transition to CUNYfirst in CUNYfirst assistance labs and through phone support.)*

- The e-Portfolio is an online document package. It will have several components. Among the first to be constructed and incorporated into the e-Portfolio will be the MAP, which should be expanded and refined. The e-Portfolio will include a constantly up-datable resume, examples of projects, skills or accomplishments, and reflective statements about achievements and goals. A large-scale demonstration of the e-Portfolio is being funded through Perkins for the 2005-2006 year for CIS and Music Electronic Technology. Some of the initial infra-structure and staffing will be obtained via this grant. As the e-Portfolio is expanded to other programs, the infra-structure will have to be correspondingly scaled upwards. *(While ePortfolios have been implemented, they have not served as a support platform for MAP – now My Action Plan. Instead, ePortfolios have been adopted by the Business Department as a High Impact Experience within the Business Academy and by a cadre of teachers participating in a Cornerstone Digital Storytelling Project, where the Group feature of the Epsilon environment is used to create Virtual Learning Communities providing a platform for students from different disciplines to interact with, and reflect on, each other's writing assignments during the semester.)*

#### **Not Implemented**

- Academic Advising has been working to develop a My Academic Plan, (MAP) for each full-time incoming freshman. Currently, this is a brief one-page hard-copy document, outlining student aspirations and goals in a rudimentary way. Over the next few years the MAP will likely be developed in several ways. First, it will become more universally applied, covering part-time and transfer students. Second, it will be expanded and deepened. Third, it will be incorporated into the e-Portfolio. This will require equipment and technical support staff. *(MAP, now called [My Action Plan], has never been electronically defined or implemented. A new attempt may be made via a project being developed with funding from a recently awarded inter-college FIPSE grant. CUNYfirst should deliver more functionality in future versions.)*

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#### **Looking Forward**

Student development will continue to be a priority for the College. Over the next five years our major objectives include:

- Continued training of new cohorts of Tech Fee Interns in the use of various educational technologies such as ePortfolios, Blackboard, Camtasia, & SoftChalk
- Continued employment of Tech Fee Interns re-sizing the program according to budgetary constraints
- Continued deployment of Tech Fee Interns to perform myriad tasks across many departments – this will include their providing support during both student and faculty workshops, especially in the eLearning and ePortfolio programs
- Continued staffing of a technology center where students and faculty may drop in for technical help with the use of ePortfolios, Blackboard, Camtasia, SoftChalk and other educational technologies

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#### **Library**

##### **Where We Are Now**

The importance of technology for the Library and Media Services has grown exponentially. The Library continues to assess its efforts to maintain and upgrade hardware, software, wireless technologies, and emerging information technologies. Changing technologies have presented new opportunities and have made previous needs (such as an inventory of the collection) less important.

To recap from the old Technology Plan

1. Remote access to library databases is available via a server maintained by CUNY OLS. Ereserve will move to a server maintained by the vendor.
2. A patron-initiated intra-library loan system (books within CUNY) exists and a patron-initiated interlibrary loan system (books outside CUNY, articles from anywhere) has recently been launched. Both systems are available to faculty and students.

## Assessment of 2005-2009 Technology Plan Objectives

### Fully Implemented

- The immediate focus will be on maintaining and upgrading software and hardware. (*Library hardware is upgraded through the tech fee cyclic replacement system.*)
- New technology, enabling the patron-initiated document delivery system for Interlibrary Loan, will be made available to both faculty and students. (*Systems known as Clics (book borrowing within CUNY) and Iliad (patron initiated interlibrary loan for journal articles and books not available in CUNY) are operating.*)
- The carefully planned and coordinated upgrading and increase of security technology will also be necessary. (*When the library was renovated, new 3M book detection systems were installed.*)

### Partly Implemented

- As is, the facilitation of off-campus use of licensed resources by establishing a Queensborough-specific means of Remote Patron Authentication (RPA). (*For several years the QUEENSBOROUGH library ran its own proxy server to allow students and faculty off-campus access to licensed resources. In 2007 the Library switched to using a proxy server furnished by the CUNY Office of Library Services.*)
- In addition to the off-campus accessibility of digitized e-Reserves, Audio-Video (A-V) materials will be also be made available off-campus to members of the Queensborough community. *E-reserves are available from off-campus. (The Library subscribes to some licensed databases which consist of AV materials (e.g. Naxos, Alexander St. Music databases, American History in Video). These products can be used off-campus with an activated ID card. However, not all AV materials are available for off-campus use.)*
- Improvement of the heavily used contracted copy machines is also an important objective. They should be upgraded to state-of-the-art, and increased in number. (*The Library currently has five photocopiers. The contract with the vendor calls for replacement with new machines when the contract is renewed. The machines are no longer the best available. The Library recently purchased (via Tech Fee funds) a book scanner that allows students to scan book chapters to a flash drive. It is hoped that this new technology will reduce the use of photocopiers and provide a useful service to the students.*)
- To foster the expansion of technological capacity it will be highly desirable to reshape the electrical and networking infrastructure. (To do this will require funding and implementation of our long standing capital outlay request for a \$13 million campus electrical upgrade) (*The main electrical transformer that supports the Library building was replaced in 2010. In addition to the issues for campus technology, the library has noticed that student-owned devices (laptops, Netbooks, smart phones) have proliferated. Students use and charge these devices in the library. The electrical upgrade has now been funded and will be completed during the timeframe of this Plan.*)

### Not Implemented

- The utilization of wireless technology for a complete inventory of the reference and circulation collections is planned for the immediate future. (*The Library does not intend to pursue this project.*)
- In order to keep pace with the burgeoning demand for Information Literacy classes, a second, state-of-the-art library classroom is planned, along with upgrading the current classroom space. Technological improvement could include smart boards, smart carts and media facilities. (*The College did not pursue this project. The Library makes use of ACC and other instructional technology labs, when available.*)
- The Library plans to extend current services in several ways. In addition to the provision of more laptops, the possibility of laptop loans for use outside the Library and for longer than two hours will be explored. (*Expansion of the laptop program awaits renovations to the reserve and circulations desks.*)
- As the types of technical services sought by patrons become increasingly complex, it is important that means of providing technical support during all hours that the Library is open be developed. (*Technical help is not available most weekends or on Saturdays.*)
- To address current problems the Library will explore ways to restrict what is now unlimited printing to ameliorate the growing burden on both finances and staff. (*Queensborough policy currently allows unlimited printing supported by Tech Fee funds.*)

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## Looking Forward

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### Services

- The Library's new Emerging Technologies Librarian will provide services for off-campus library users. With the increased offering of hybrid courses, there is a need to offer virtual reference services and information literacy instruction online. The Emerging Technologies Librarian will be the leader in the development of such services and will share her expertise with other library faculty members.
- Under the leadership of the Emerging Technologies Librarian, Library faculty members will gain better skills to serve as embedded librarians for hybrid and fully online classes. An embedded librarian can assist the instructor, if needed, in identifying suitable online material for the course. Then the embedded librarian can offer online reference and instruction to students who are less likely to come into the library building.
- The Library is presently using two iPads to allow librarians to walk around the library and provide a "roving reference" resource for students. If this initiative proves productive, the Library may request more iPads.
- Microsoft Office will be available on all Library computers.

### Collections

- About one third of the Library book collection and about 99% of the periodical collection is available online. The Emerging Technologies Librarian will establish off-campus reference and instruction services so the Library can share these resources with members of the Queensborough community who are not on campus.

### Equipment

- Library faculty members will incorporate more interactive media into their information literacy classes. A multimedia podium with projector and screen is being installed in the Library classroom.
- The Library is testing Kindle eBook readers, and will assess the results of this test.
- The Library plans to expand the popular circulating laptop program.
- Photocopiers
  - The Library is exploring the feasibility of putting this contract out for a bid in an effort to improve services.
  - The Council of Chief Librarians is exploring the feasibility of a university-wide contract for photocopying.
  - The Library has recently purchased a book scanner, so rather than photocopying, students can scan books, articles and other documents. The documents can be saved on a flash drive or emailed. In addition to being "greener," this approach eliminates the staff labor involved in adding paper and un-jamming photocopiers. The Library will assess the use of this scanner.
- Additional printing resources will be provided in the Library, and the feasibility of limiting printing will be explored.

### Space

- The Library would like to offer students a "presentation practice" room for students' collaborative projects. Students need a space with a computer with a large monitor or smartboard, a flip chart, microphones, and a camera to prepare and practice presentations.
- Efforts will continue to secure an additional, larger classroom.
- The Library will explore the development of a "service center." The Service Center would house four photocopiers and a computer and printer dedicated to "quick print" jobs. The Service Center could be staffed by Tech Fee students and/or College Assistants. A location for the Service Center is yet to be determined.
- Renovations to the reserve desk are needed in order to expand the circulating laptop program.

### Website Homepage

- It is necessary that the Library be able to have a user-friendly homepage. Unlike other departmental homepages, which describe the work of the department, the library's homepage is the location where students and faculty are guided to use library materials. The Library will create subject pages by using a product called LibGuides. The homepage will link to the LibGuides created by our librarians. The result will be pages containing links to the library catalog, ebooks, databases and reliable websites for specific subjects.

## Staff

- The Library continues to have the goal of providing technical support services during all hours of Library operations

## ∇ Campus Writing Center (CWC)

### Where We Are Now

The Campus Writing Center is committed to the vision that the innovative use of technology is integral to excellence in community college pedagogy and student service delivery. Educational technology is seamlessly woven into every aspect of the CWC experience for students, tutors, e-tutors, staff and faculty alike.

Components of CWC educational technology vision include:

- **iBoard:** iBoard is the department's 42" plasma screen that functions as an interactive electronic bulletin board for students to access online information, as well as a demonstration tool for orientation and tutor trainings.
- **The iPASS e-tutoring system** has been implemented - an asynchronous Web-based application, providing students and e-tutors with 24/7, anyplace-anytime tutoring and test preparation.
- **CWC Paperless:** The Campus Writing Center has moved to a paperless model, with an entirely new swipe system database replacing forms and paper tracking.
- **CWC Wireless:** Providing students and tutors access to, and training in the use of, wireless technology through the center's 2 wireless hubs and 30 wireless laptops.
- **CWC Computer and Technology Center (CTC):** a 32-workstation hard-wired computer lab complete with a library of content area and writing-based software.

Funding for CWC initiatives has been provided by varying sources, including: the NY State Department of Education, Coordinated Undergraduate Experience (CUE) initiative, the Queensborough Student Association (QSA), Queensborough Tech Fee, and tax-levy funds.

## Assessment of 2005-2009 Technology Plan Objectives

### Fully Implemented

- **Uses of interactive touch-screen displays in learning centers. This will eliminate messy paper postings and bulletin boards and free up front desks as on-site students are directed to locate information by themselves.**
- **Development of innovative uses of wireless technology. As academic support services departments are the laboratories where students not only acquire a better understanding of course content, but also those strategies and tools that enable them to learn HOW to learn new and difficult material, there should be uniformity in efforts made to seamlessly integrate the use of wireless laptops and PDA's into tutoring, study skills, and other strategic learning sessions.**
- **Institutionalization of iPASS distance learning technology and instructional support. By fall of 2006, the iPASS system will be ready to roll out for production to support the writing needs of the Queensborough student body, creating a 24/7 academic support services delivery system, catering to the needs of traditional and non-traditional students alike, designed to support English, Writing-Intensive and learning communities coursework, hybrid and fully-online distance learning coursework, and ACT/CPE Writing Exam Prep, as an augmentation to face-to-face tutoring.**
- **Institutionalization of consolidated tutor / e-tutor training program via online venue. The Perkins III grant has allowed ISS to develop and implement a consolidated tutor training venue, providing not only bi-annual Orientation/Foundations of Instructional Support training, but a rich weekly program of in-service training for all tutors, on-site, campus-wide. Through iPASS, a similar certification and in-service training for e-tutors is being developed.**
- **Development of a common annotated bibliography of online instructional resources. On its Website, ISS has developed a complete collection of links to textbook Websites for every text used at the campus, as well as a Cool Links page to interesting, dynamic and informative addresses on the Web to help students further practice their learning skills across different curricula.**

### Partly Implemented

- Increased use of digital video and audio taping and editing. To augment face-to-face tutoring, as well as e-tutoring services, academic support services departments should utilize digital video and audio taping and editing of tutor trainings, orientations, and academic support workshops so that tutors and students can access streaming vignettes at their own convenience via Website to enhance their learning experiences. *(The CWC has a few video captures of orientation and training sessions but has not yet edited or uploaded vignettes as podcasts or streaming video onto the CWC website.)*

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### Looking Forward

Specific technologies benefitting the Campus Writing Center over the next five years would include:

- Ensuring swipe database interfaces with CUNYfirst data seamlessly.
- Translating CATW prep workshops into an online experience, redesigning the hard-copy materials into online webpage content and integrating audio and video.
- Using wiki technologies more often and effectively.
- Improving the content and scope of iPASS e-tutoring.
- Exploring the use and relevance of handheld technologies, i.e., iPad and/or other computer tablets and smartphones as educational tools and change agents for student learning.

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### ▽ Student Learning Center (SLC)

#### Where We Are Now

Offering a variety of research and educational resources, including technology, as well as support services, the Student Learning Center (SLC) is a tutoring center that facilitates collaboration and exchange of information and functions to support current and life-long learning for all members of our diverse community. The SLC provides academic tutoring and support services to QUEENSBOROUGH students completing credit-bearing courses. Tutors attend orientation sessions at the beginning of each semester and are required to complete a minimum of 10 hours of in-service training throughout the academic year. Faculty serving as Academic Facilitators act as liaisons between the center and academic departments. In addition to facilitating communication among college parties, the Academic Facilitators offer content-specific training to tutors and complete evaluations regarding tutor knowledge and facilitation of learning. Committed to the College's Mission, the SLC consistently aims to tie its services to academic work through ease of access and integrity.

Current aspects regarding technology utilized at the SLC include the following:

- **SLC Computer Lab:** The center provides 10 computer workstations that are available to tutors and students for tutoring sessions. In addition to helping students learn how to gather quality online information for research assignments, tutors use center software, CDs, DVDs and academic websites to help students completing courses in Business, Biology, Chemistry, Physics, Foreign Languages, Social Sciences, Computer Science, Nursing and Education.
- **SLC Net Books:** The center has five wireless net books available to tutors and students for tutoring sessions. Due to the high volume of activity in the main tutoring area, tutors can bring students to other areas of the Library building if space and/or noise level present challenges regarding the learning environment. Wireless technology allows the tutoring session to be "portable" regarding provision of learning support using online or software resources. In addition, IT has installed software on the net books which allows tutors conducting large group tutoring to "sign in" students from remote locations. The data entered is uploaded and integrated to the main database at the SLC after the tutoring session has ended.
- **SLC Student and Tutor Tracking System:** Designed, developed and implemented by IT, the SLC Student and Tutor Tracking System relies on the student information off-loaded from the CUNYfirst database, allowing staff to sign in QUEENSBOROUGH students and to enter specific information regarding student usage: type of session (self-study, tutoring, workshop, review, etc.), length of session, and learning resources borrowed by students. The system also allows quick entry regarding tutor activity including hours worked, hours with students, and the total number of students tutored for each subject. Through this data collection by the system, the SLC is able to provide end-of-semester reporting with details to the Office of Academic Affairs (OAA) and interim reports that are requested by department chairs.
- **SLC Webpage:** The center completed initial steps regarding development of a webpage. Students and faculty can access the site to gain information regarding mission, staff, hours and tutor schedules.

- **SLC Online Tutoring Support:** The center offered online tutoring support to Business Accounting students completing the course(s) in an online format.

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### Looking Forward

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- **SLC Student and Tutor Tracking System:**
  - Development and utilization of a swipe card system to sign in student.
  - Further research regarding the possibility of leveraging the appoint-scheduling system currently used by the Advisement and Financial Aid offices so the system might be tailored for SLC usage.
- **SLC Webpage:** Complete development of online tutoring resources and training within website.
  - New tutors will be able to complete some level of training and complete initial assessment of knowledge online.
  - Additional resources for tutors regarding facilitation of learning and content-specific areas will be available.
  - A “chat” area will be provided for Academic Facilitators and tutors to engage in discussions or communication updates in an online forum.
- **SLC Online Tutoring:** The center will improve provision of academic support to students completing online credit-bearing courses through the following:
  - Further research regarding online support options including utilization of established and credible online support programs, “in-house” programs, Blackboard and E-portfolio.

Work with faculty offering online courses in order to establish and incorporate an agreed-upon and appropriate “entry route” and communication forum to students completing online courses.

## ∇ ADA – Services for Student with Disabilities (SSD)

### Where We Are Now

Queensborough continues to be proactive in addressing the issue of technology and disability services.

The College approach has been twofold, which includes 1) Americans with Disabilities Act (ADA) compliant workstations in all labs for student use, and 2) a centralized Services for Students with Disabilities (SSD) Lab which provides individualized tutoring, a study lab, assistive technology and a testing center that administers exams with reasonable accommodations.

- **ADA Workstations** (financed through CCIP and Tech Fee) – Each facility that has group instruction using computers and each location that has computers for student use has a minimum of one ADA workstation which includes: a height adjustable table, one large computer monitor, text enlarging software and scanning and screen reading software. Additional software and alternative input devices are maintained and are available through the office of Services for Students with Disabilities.
- **SSD Lab** – This is the centralized support service lab located in L 115 where students with disabilities receive testing accommodations and tutoring and utilize the assistive technology for the purpose of class assignments, homework, independent study and research. Computers in this lab are up-to-date and fully functional. In addition, an interactive white board has recently been installed in the lab. All workstations in the testing center are height adjustable and complete with a full array of assistive technology. In addition students receive training in the utilization of specialized software. Laptops are available for classroom use (as deemed necessary for accommodation purposes). Braille services are provided in cooperation with some of our CUNY partners.

The SSD lab is primarily funded through ADA/504 funding and Tech fee.

The Learning Disability Specialist in the SSD office also specializes in assistive technology and is available for staff as well as student training.

## Assessment of 2005-2009 Technology Plan Objectives

### Fully Implemented

- As an objective of this Technology Plan the College will provide classroom-based closed captioning when necessary to accommodate the hearing impaired. In addition, a text only (ADA compliant) version of major portions of the College Web site will be online by the spring 2006 semester.
- To further the awareness and use of adaptive instructional technology, The Offices of AA and Services for Students with Disabilities should conduct outreach and educational activities to inform faculty, staff as well as students on the availability of adaptive instructional technology for use by those with documented disabilities.

### Looking Forward

- As an objective of this Technology Plan, the College will provide classroom-based closed captioning with voice-recognition, live streaming, alternate media i.e. video / audio recording, and web based archiving of actual courses. These types of improvements will increase accessibility for all students. It is anticipated that these objectives, if met, will increase not only the College's number and quality of education of students with disabilities, but also provide access to online education to other populations.
- In addition, a text-only (ADA compliant) version of major portions of the College current Web site is in place and will be continually enhanced by providing accessibility tools such as the BROWSE ALOUD screen reader web browser add on.
- The College is committed to exploring ways of providing services to reasonably accommodate students with disabilities. These technologies, if implemented as part of the College's infrastructure, would provide access to a greater number of students, including students with disabilities.
- It stands to reason to anticipate that technology will continue to provide an increasing role in the educational process as well as in providing accommodations to students with disabilities in the college community. These technologies will continue to need to be upgraded and maintained.
- To further the awareness and use of adaptive instructional technology, the Offices of Academic Affairs and Services for Students with Disabilities will conduct outreach and educational activities to inform faculty, staff, and students of the availability of adaptive instructional technology for use by those with documented disabilities.

## ∇ Academic Computing Center

### Where We Are Now

In support of all academic curricula, The Academic Computing Center (ACC) was established in March of 2000. The ACC provides both educational technology facilities and services. **Facilities** include: **student computer lab** and **multimedia classrooms** with instructional presentation technology. **Services** provided include educational technology **workshops**; individualized **training and support** to both students and faculty; **consulting** for academic computer related purchases; **Web design** and implementation, including the College Web site; Department Web sites; and course Web sites using both Blackboard and conventional Web site implementations.

### ACC Facilities

The Academic Computing Center provides state-of-the-art computing facilities, including:

- The **Student Computer Lab** provides access to computers and application software for thousands of students each semester. Students will find access to, and help with, most application programs required to do their course work.
- **Multimedia Classroom:** The ACC maintains and schedules its multimedia classroom to serve student, faculty and staff workshops, as well as ad-hoc bookings from both administrative and academic departments.
- **Multimedia Podiums:** The ACC maintains fixed podiums currently in 54 classrooms around the campus. The ACC maintains and schedules mobile podiums that have been deployed to various designated areas.

### ACC Services

- In addition to Internet access, the ACC makes available on its student lab computers application programs and data files to support students in all curricula. At the request of faculty members the ACC currently

supports software being used for instruction in various disciplines, including Accounting, Art, Astronomy, Business, and varying Technologies.

- **Workshops** as well as individualized help are provided for both students and faculty covering such topics as the use of Office application software, ePortfolios, and the Blackboard learning management system. Online registration is available: <https://www2.queensborough.cuny.edu/acc/workshops/register.aspx>
- **Blackboard** –Each semester students have access to course materials 24x7 via Blackboard, CUNY’s Web-based learning management system. The ACC handles all student and faculty inquiries related to Blackboard via [BbSupport@Queensborough.cuny.edu](mailto:BbSupport@Queensborough.cuny.edu)
- **eLearning Institute** – facilitated by an interdisciplinary teaching team, twice each year a new faculty cohort is guided through the process of creating online courses.
- **Epsilon / ePortfolio** – the ACC provides workshops for students & faculty and schedules student mentors to assist during workshops and classroom sessions
- **Online Support Services** – in addition to general ePortfolio and Blackboard support, the ACC provides day-to-day support for faculty members who are developing their online courses and integrating ePortfolios into their coursework, and for students who need help with online technologies.
- **Digital Signage & Web Design Services**
  - Currently there are 25+ LCD screens mostly where students gather around the campus
  - The ACC designs and schedules digital signs according to requester specifications
    - the **Digital Signage Request Form** is here: [www.queensborough.cuny.edu/DigitalSignage](http://www.queensborough.cuny.edu/DigitalSignage)
- **Digital Media Services:** The ACC records and edits student and faculty events, including sports, lectures, activities, and online micro-lectures. The ACC also maintains the College Media server, which hosts all recorded videos available thru Tiger Media. In addition, the ACC maintains the College YouTube Channel and iTunesU public area.
- **Web Site** – see the Web Site section later in this document

#### ACC Staff

- The ACC staff currently consists of a Director, two full-time CLTs, a Web Master, a Web Designer, a Web Programmer, an eLearning Technologist, and a Digital Content Manager / Videographer. As the requests for Web services and the use of technology increase across the campus, the ACC is finding it very difficult to keep up with the demand for services. The ACC continues to deploy efficiencies, but it is now at a saturation point. With further scheduled expansion in the use of classroom podiums, eLearning course development, including an impending change to Blackboard 9, increased use of mobile technology, and the Web site conversion now being undertaken, additional staff will be needed so that the ACC can continue to maintain its services at a high level.

#### Assessment of 2005-2009 Technology Plan Objectives

##### ACC Facilities

###### Fully Implemented

- The Academic Computing Center will work with Academic Departments to make sure that the software available in the Student Lab supports the academic program.
- The Academic Computing Center will complete the replacement of all of its computer systems in the Student Computer Lab according to the scheduled Tech Fee Plan replacement cycle, so that students will have access to the most recent hardware and software.
- The ACC will continue to coordinate Tech Fee and other academic technology expenditures, and campus smart room installations.

###### Not Implemented

- The Faculty Development Room will be updated to provide access to scanners and a high quality large color printer. (*The Faculty Development Room function was moved from the ACC to CETL*)

##### ACC Services

###### Fully Implemented

- Blackboard – the ACC will continue to be the main point of contact for all Blackboard related issues. Additional multimedia tutorials will be developed to assist users. An e-Portfolio system will be established as an add-on to Blackboard the system. (*The ePortfolios / Epsilon actually ended up being a separate system, which also serves as an alternative to Blackboard.*)

### Partly Implemented

- Workshops – in addition to the typical cadre of workshops offered, the ACC in concert with CETL will develop and offer discipline-specific workshops in an effort to assist additional faculty members with the development of individual and course related Web sites. *(Some discipline-specific workshops were developed and offered, but the concept did not catch on, and they were poorly attended. While many workshops continue to be successfully conducted, this “In-concert” idea has since been abandoned.)*

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### Looking Forward

#### Facilities:

- In an effort to eliminate the long waiting lines that students must endure to use a computer, the ACC has been given primary responsibility for scheduling a new computer lab in LB-24. While we will make every effort to use the room as efficiently as possible, LB-24’s primary purpose will be to serve as an expansion area during ACC peak periods (typically 10:30-2:30) each day. We will monitor room use and adjust the schedule as needed
- Additional podiums will be installed in classrooms throughout the campus, on an average of 10 each year. The ACC will monitor and maintain them as best we can, but given current staffing levels it will become increasingly more difficult to make timely updates and repairs.
- A podium spare-parts closet will be established and maintained to make repairs more efficient

#### Services:

- A new Content Management System (CMS) is being installed, and all current Web pages are being ported over to this new system. It is expected that a major portion of the College Web site will become available towards the end of the spring 2011 semester.
- An eLearning Institute will be conducted twice a year (once in the summer and once in the winter). Out of the institutes will come additional quality online courses, mostly taught in the Blended modality (partly online). Faculty participants are expected to take one semester to complete the course development, and then teach their newly developed courses at least twice in subsequent semesters.
- Digital Signage creation will be maintained at the current level
- Workshops will continue to be offered covering technologies in use by students, faculty, office staff and CLTs. Especially covered will be: ePortfolio, Blackboard, Camtasia, SoftChalk, and Office applications.
- Online Support Services will continue to be offered, especially covering technologies such as Blackboard and ePortfolio. However, as more teachers begin using ePortfolios and developing their online courses, it will be difficult to maintain the current level of support
- Digital Media Services will be maintained at current levels

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### Web Site

#### Where We Are Now

The College Web site is a primary means of communication and dissemination of information and services. The Academic Computing Center has primary responsibility for the design and day-to-day update of the Web site, the Office of Information Technology is responsible for administrative Web site applications and infrastructure, and the Marketing Office has primary responsibility for homepage content.

Recent Queensborough Web site enhancements include:

- Linked online Advisement , Scheduling, and Registration through CUNYfirst
- Newly designed areas serving Prospective and Current Students
- New areas serving the six Freshman Academies
- Renewed sites for the QCC Art Gallery, the Queensborough Performing Arts Center (QPAC), and the Kupferberg Holocaust Resource Center and Archives
- An Epsilon ePortfolio site
- The Tiger Media area, hosting videos for all college events
- Links to Queensborough’s YouTube Channel and iTunesU public site
- An Alumni & Friends area
- e311 – that provides visitors with a direct link to make Suggestions, ask Questions, or report Problems

- An online workshop registration application
- A Web-based eLearning Readiness Program – see the Online Instruction section for details

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### Assessment of 2005-2009 Technology Plan Objectives

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#### Fully Implemented

- Web Server infrastructure – the College’s aging Web servers will be replaced with up-to-date redundant servers with automatic load balance and failover.
- Online Registration for the CPE Exam (*This was implemented, but the CPE Exam has since been eliminated as a requirement for graduation.*)
- ePortfolio – providing a place for students to showcase their best work, and to facilitate the assessment of that work for accreditation purposes. Grant funding for an e-Portfolio pilot project has recently been secured. (*The Epsilon ePortfolio platform licensing is now funded by the Student Tech Fee.*)
- Fundraising
- A new design for the Performing Arts Center (Q-PAC). Also, online ticket sales and promotion is currently being outsourced, but a means for bringing this in-house is being studied. (*Outsourced ticket sales was implemented and deemed to be the best solution.*)

#### Partly Implemented

- An objective of this plan is to study and improve the effectiveness of the services provided to the Web site’s three major constituents Prospective Students, Current Students, and Faculty & Staff. To help achieve this, monitoring software (Web Trends) will be used to perform Web site analysis and report generation. Also, regular surveys will be deployed to help establish and improve the level of satisfaction by site users. (*The use of Web Trends was tried and abandoned due to the need for extensive training and its high cost. Google Analytics has been deployed, but the need for that will soon be supplanted by the installation of a new Cascade Content Management System (CMS), which has its own analytic component.*)
- Centralized digital asset management to make the College’s fast-growing digital media collection (including photos, audio, and video) accessible to those who need it. (*A home-grown video management system [Tiger Media] has been fully implemented. A couple of photo management systems have been tried, but none has been successfully implemented. The Extensis platform, for example, proved to be too costly in both licensing and additional staffing requirements needed for implementation and maintenance.*)
- A Web site content management system will be deployed to empower those who wish to edit and update their own Web materials. (*This process is now underway.*)

#### Not Implemented

- My Academic Plan (MAP) – This will provide a means for students to closely follow their own progress, while interacting with advisors and counselors, as they move through their curriculum.
- Information for High School Counselors (*No one took ownership of this project.*)
- In addition, an active campaign will be mounted to encourage more faculty members to create their own academic Web sites that both showcase their work and serve the courses they teach. (*Faculty members showed very little interest in creating and maintaining their own Web sites. In the future, after the full implementation of the content management system, another attempt will be made to garner faculty interest.*)

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### Looking Forward

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- The *Hannon Hill Cascade* Content Management System (CMS) has been selected and purchased, and it is being implemented during spring 2011.
- Workshops will be offered to Department Web Coordinators so they can effectively use the Cascade CMS
- Workshops will be offered to faculty and staff so they can effectively use the Cascade CMS
- Existing Web Applications will be modified to utilize data from CUNYfirst ERP system and to integrate with the Cascade CMS
- Mobile applications will be built and integrated with the Cascade CMS
- During the timeframe of this Technology Plan, it is expected that CUNY will introduce a new version of the Blackboard Learning Management System. Training for this new version will be implemented.
- During the timeframe of this Technology Plan, it is expected that CUNY will introduce a new Asynchronous Video Conferencing / Lecture Recording system. Training for this product will be implemented.

- Use the built-in analytical component of the **Cascade** Content Management System (CMS).
- Create an online visitor’s center

## ▽ **Marketing**

### **Where We Are Now**

The Queensborough Community College homepage is a portal of knowledge designed to:

- Build student enrollment
- Increase student retention and graduation rates
- Attract prospective faculty
- Promote Degree, Certificate and Continuing Education programs
- Showcase the College’s cultural resources such as the QUEENSBOROUGH Art Gallery, Kupferberg Holocaust Center and Queensborough Performing Arts Center, as well as its unique academic initiatives, specifically the Freshman Academies
- Highlight “News & Events”
- Spotlight remarkable faculty and student achievements under “Success Happens Here”
- Announce “Important Dates”
- Inspire QUEENSBOROUGH Alumni involvement and growth in fundraising activities

The Marketing Office works closely with the Academic Computing Center (ACC) to effectively present and deliver the above information and messaging in a timely and streamlined manner to prospective students, current students, parents, counselors, QUEENSBOROUGH alumni, donors, friends, community partners, sister CUNY colleges, QUEENSBOROUGH retirees, faculty, staff and members of the press, among others.

The prime “real estate” consists of a Banner at the top of the homepage; a News & Events scroll with an RSS link to QUEENSBOROUGH press releases and events as listed on the CUNY Newswire; a Success Happens Here button; Important Dates (for academic information and College closings ONLY); a Freshman Academies button; links to various cultural centers, Continuing Education, Institutional Advancement, alumni page, etc.

### **Assessment of 2005-2009 Technology Plan Objectives**

#### **Fully Implemented**

- Electronic newsletters, with targeted messages and “blasts” to key constituencies such as donors, QPAC supporters, Holocaust Resource Center members, alumni, newly accepted students, etc.
- Launching of a College’s SPOTLIGHT ON SPONSORS - Solicitation of gifts might be assisted by offering donors visibility and public appreciation on the Web site.

#### **Not Implemented**

- Opportunities for immediate input and action by the visitor to the Web site. For example, Live Person responses during peak usage time such as advisement and registration periods, o targeted polling with immediate feedback, and piloting online “college fairs” for prospective students.

### **Looking Forward**

#### **Social Media**

The Marketing Office will continue to expand its partnership with the Academic Computing Center and establish social media opportunities on the homepage. Buttons for Twitter, Facebook, and DIGG should link from the College’s press releases, articles, photos, newsletters, events, etc. An iTunesU icon will appear on the homepage linking to the College’s uploaded videos. Expand outreach to alumni by establishing Linked-in and Twitter accounts.

#### **Branding**

All publications, news releases, video feed, web sites, social media sites and announcements must carry the current common branding (logo and design formatting) developed and mandated by The City University of New York (CUNY), as well as the QUEENSBOROUGH Campaign logo and signature for the CUNY Campaign up to 2015, *provide Queensborough students with the Edge for Success.*

#### **Additional Goals:**

- Communicate to departmental website coordinators that academic homepages must be current
- Provide a multi-level platform for fundraising initiatives

- Develop a team to manage, support and refresh the social network sites

**Publications**

**Within next three years:**

- Complete software upgrade to latest Apple Mac OS and Adobe Creative Suite.
- Upgrade color printer with print server and/or memory upgrades

**Within next five years:**

- New Apple Mac hardware upgrade

**∇ Continuing Education**

**Where We Are Now**

Queensborough’s Continuing Education program provides a wide variety of noncredit, vocational and professional development, certificate programs, online courses and recreational offerings.

Continuing Education facilities and services include:

- Two shared facilities in Flushing, one of which holds 20 computer stations and one recently vacated facility in need of equipment; two other on-campus labs each with 24 computer stations.
- Approximately 80 courses focusing on specific software applications, including interior design, computer literacy, Auto-Cad, digital photography, finance bookkeeping, medical billing, etc.

**Assessment of 2005-2009 Technology Plan Objectives**

**Fully Implemented**

- Make Web-site more user-friendly with more information and better navigation for course descriptions.
- Establish Online registration by fall 2006
- Increase the number of online offerings and access.
- Create courses to address the needs of seniors using computers and the Internet

**Partly Implemented**

- Increase services and programs for business tech “high end” and workforce needs

**Not Implemented**

- Continue to work on establishing Blackboard access (CUNY wide collaborative project in progress)  
*(Continuing Education is not scheduled for inclusion in near future.)*

**Looking Forward**

- Continue to upgrade the Web site with information and improved navigation
- Explore the possibility of offering courses in high tech certification
- Expand offerings for the technical professional development of health care workers
- Support access in eLearning courses through Blackboard or an alternative
- Provide 20 computer stations for the vacated facility in Flushing
- Reuse of the Apple Macs that are replaced through the Tech Fee program

**∇ Development and Alumni Relations**

**Where We Are Now**

With the acquisition of Financial Edge, the accounting package that allows a direct interface with Raiser’s Edge, Queensborough was required to host Financial Edge on its own server, as hosting Financial Edge on a server at CUNY’s Central Offices was not an option. The accounting package was purchased to reduce the probability of human error in dual data entry of the same data and eliminate the need for manual reconciliations.

**Assessment of 2005-2009 Technology Plan Objectives**

**Fully Implemented**

- As the College’s Website has evolved, the Alumni Relations Office now receives a small number of memberships and other donations via online systems, which create initial automatic “thank you” emails to the donor. Our staff then verifies the donation and updates information in Raiser’s Edge. As online giving becomes more prominent on the College’s home page, we expect that online donations will rise.

- The Department is also increasing its use of email blasts to our alumni. While we currently have active email addresses for roughly 4,000 of our 45,000 alumni, we expect that number to rise as our efforts to capture this data increase.

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### **Looking Forward**

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- As Development and Alumni Relations continues to move from hard copy (paper) to web-based transmissions, staff will need to acquire the necessary technical skills for writing and presenting information/solicitations online. For example, staff will need to learn how to create emails with embedded graphics as opposed to attachments.
- Opportunities for raising funds through online giving and social media will continue to present themselves, which will require additional staff or training for existing staff. Managing social sites can be extremely time consuming and will require time management skills, based on projected return on investment.
- All website material/content will need to be formatted for access by mobile marketing applications.
- Obtaining correct cell phone numbers of alums needs to be prioritized over land lines or email addresses

### **∇ Faculty**

#### **Where We Are Now**

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We had a long way to go before the majority of faculty members embraced the use of technology for teaching, and now that distance has grown shorter with both current faculty making greater use of the technology and new faculty entering our community with experiences and expectations for the use of the technologies.

Every full-time faculty member now has a computer on his or her desk, every classroom has both wired and wireless Internet access, and more and more of our classrooms have permanent or portable presentation technologies and faculty making use of them. There are also better computer services for adjuncts with computers available for their use wherever space is available within departments.

Led by programs such as CETL and the ACC, with funding support from institutional grants as well as individual faculty development grants, faculty development efforts have increased familiarity with the potential and technical aspects of hardware and software applications; and most importantly, the pedagogy of instructional technology.

The College's Strategic Plan called for CETL and the ACC to support faculty development in pedagogy and the use of educational technology.

- In concert, CETL and the ACC developed and delivered discipline-specific workshops focused on pedagogy and the incorporation of technology in the classroom. Teachers from many disciplines assisted in workshop development and delivery.
- Dynamic Web sites are to be created by the library, which will provide ongoing resources for teachers in each discipline, as well as a means of continued communication with discipline and technology experts.
- Beginning in summer 2006, a special summer institute was planned, further developing the uses of educational technology in the classroom. In summer 2010 the College launched its fully comprehensive eLearning program for faculty and course development, involving intensive institutes and continuing workshops and mentoring over 18 months for new blended or hybrid courses. This was made available to full and part-time faculty.
- The Faculty Development area in the ACC was enhanced to provide access to additional technology services such as slide and videotape conversion, audio recording and editing of classroom lectures.
- The Academic Senate's Committee on Distance Education has been renamed as the Committee on eLearning.

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**Assessment of 2005-2009 Technology Plan Objectives**

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**Fully Implemented**

- In concert, CETL and the ACC will develop and deliver discipline-specific workshops focused on pedagogy and the incorporation of technology in the classroom. Teachers expert in each discipline will assist in workshop development and delivery so that the maximum benefit will be realized. *(Both CETL and the ACC offered numerous workshops in this timeframe. While discipline-specific demand never materialized, all workshops included pedagogical components.)*
- Beginning in the summer of 2006, a special summer institute will be offered, further developing the uses of educational technology in the classroom. *(While a “2006 Institute” was not offered, numerous workshops were offered during 2006 and subsequent semesters. Since then, summer 2009 ePortfolio, summer 2010 & Winter 2011 eLearning Institutes have been successfully conducted.)*
- Dynamic Web sites will be created which will provide ongoing resources for teachers in each discipline, as well as a means of continued communication with discipline and technology experts. *(As of fall 2010 the Library has joined Queensborough’s eLearning effort by developing discipline-specific resource guides.)*

**Not Implemented**

- The Faculty Development area in the ACC will be enhanced to provide access to additional technology services such as slide and video tape conversion, audio recording and editing of classroom lectures. *(The Faculty Development function was moved to CETL.)*

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**Looking Forward**

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Regarding support for faculty and their uses of technology, the major objectives of this plan are:

- Continued faculty development under the auspices of the ACC and CETL
- Better tech support for full-time and part-time faculty while they are on campus
- Greater mobile computing support
- Continued upgrading of faculty office computers. For example: move from Windows XP to Windows 7; move from MS Office 2003 to MS Office 2010.

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**∇ Classroom Technology**

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**Where We Are Now**

Through the implementation of the College’s Tech-Fee Plan we actively replace all laboratory computers with state-of-the-art systems every four years. Software is updated as required by curricular needs, but given today’s vendor licensing policies most computer software is renewed every year. Other hardware such as printers, servers, projectors, smart boards, scanners, etc. are replaced on an as-needed basis.

The Tech-Fee Plan has also yielded a strategy for the installation of instructional presentation technology. To date, more than 50 classrooms have been outfitted with an instructional podium, projector, & screen or smart board. The Tech Fee also supported the upgrade of all network switches supporting student labs to the 1 Gbps standard.

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**Assessment of 2005-2009 Technology Plan Objectives**

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**Fully Implemented**

- Beginning in year four the plan calls for the installation of smart podiums in all 175 classrooms on a phased-in basis. Over time, depending upon funding, this approach will make multimedia presentation technology available to all who teach at the college.

The technology installed in each classroom will be robust, yet simple to use, secure and centrally administered via the college network. Each instructional presentation system will contain a projector and screen, Internet connected computer, touch monitor for annotation, document camera, DVD/VCR (Video Cassette Recorder) combination player, a port for laptop connection, speaker system, and a control panel for selection of video and audio inputs and volume. Access will be controlled via college-ID swipe lock. *(50+ classroom instructional podiums have been installed as of spring 2010. Another 10 will be activated for the fall 2011 semester.)*

### **Partly Implemented**

- To complement the Tech-Fee plan, this Technology Plan will provide for faculty training in the technical and pedagogical uses of the new classroom presentation technology. Through CETL and the ACC, faculty development programs and institutes will be initiated, as called for in the College's Strategic Plan. (*The ACC conducts a how-to session for faculty members as each podium is deployed. More extensive workshops have not been requested.*)

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### **Looking Forward**

- It is an objective of this plan to outfit the majority of campus classrooms as fast as funding allows. In spring 2011, 10 additional instructional podiums will be installed
- Student Response Systems (clickers) will be installed in classrooms that contain instructional podiums
- Once CUNY has selected a vendor, lecture capture capability, as well as synchronous communications, will be available in classrooms that contain instructional podiums

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## **▽ Wireless Environment**

### **Where We Are Now**

Several years ago the Technology Committee of the College established the goal of having a wireless network that enabled any room to become a computer lab by rolling in a laptop cart (containing 24 laptops). This was an effort to stop the spread of fixed computer labs to improve room utilization.

While the goal was laudable, what we learned was not to replicate the process. The problems with this approach are many: "it takes too much time to hand out laptops at the beginning of class and get them back at the end," making this suitable only in 2-3 hour classes; you need a person in the room to hand laptops out and take them back and to maintain security; laptops are more fragile than other types of computers; the short battery-life of laptops and the battery replacement costs are a problem, especially in a classroom setting; laptops cost much more than comparable desktops. While we currently share a rolling laptop cart between two rooms, there are no plans to increase this practice.

However, initiated by the rolling laptop project, a wireless network now blankets the entire campus, and its use is increasing. For example, the wireless network currently enables un-tethered loaner laptops and printing in the Library, Internet kiosks placed around the campus, and student, faculty, and staff access from their own ever increasing number and variety of wireless devices. We have utilized laptops in the Student Union building to facilitate mass advisement sessions that spread over several days.

Furthermore, we have come to recognize that students and faculty need access to online resources, services and utilities at times when they are not at a desktop or a hard-wired connection of some kind. Wireless provides ubiquity on top of utility. Queensborough has provided both wired (for fixed work stations and connections) and wireless (for notebook, PDA and other kinds of devices) access, coexisting and ultimately saturating the entire campus so one can have both anywhere. More and more students are coming to campus with an ever expanding complement of hand-held wireless devices expecting to find a state-of-the-art wireless network here, and they do.

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### **Assessment of 2005-2009 Technology Plan Objectives**

#### **Partly Implemented**

- Queensborough should begin exploring the potential of Wireless Internet Learning Devices (WILDs) to improve student learning, especially within important but difficult concepts in mathematics, science, and other subject areas. Emerging handheld devices offer the opportunity to build on the success of graphing calculators in the math curriculum and the appeal of Pocket PC or Palm devices in many curricular areas. The lower cost and easy portability of handhelds (compared to laptop or desktop computers) may make 1:1 student-computer ratios affordable, and thus enable frequent, integral use of computers in classroom learning. Further, wireless communication may enhance classroom workflow, assessment, and collaboration. (*The College has upgraded its wireless network to the latest, faster "N" standard. In addition, the Library is using Apple iPads to assist students, and it is piloting the Amazon Kindle eBook Reader.*)

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## Looking Forward

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Not knowing how wireless technology will change in the future, we establish these broad objectives.

- Faced with ever increasing demand and heightened expectations, Queensborough plans on maintaining the latest version of wireless technology seamlessly available across the campus.
- Queensborough will endeavor to advance its wireless network as new technologies become standardized, useful, and stable.

## ▽ Online Instruction

### Where We Are Now

For a number of years the college has been offering online / eLearning classes in Web enhanced, partly online, and fully online modalities. Both the College and CUNY have provided the infrastructure, hardware, software and training for online offerings. Still, the number of classes and students involved has stayed small. For various reasons, including lack of student and faculty interest, Queensborough has taken a cautious approach to Distance Education.

Recently, Queensborough Community College has renewed its efforts to bolster and deliver quality online courses. This effort has not been without missteps. A program launched in spring 2009 to support faculty in the development of ten fully asynchronous online classes resulted in only three classes being taught. The primary reason for the disappointing results was lack of technical and pedagogical support for faculty course developers.

In the aftermath of this program and as a result of reflections from the Middle States Self Study, the Academic Senate's Committee on Distance Education proposed a special committee composed of members of each academic department to prepare a plan for creating and supporting eLearning at the college. The Senate approved this plan, and with the support and active involvement of the college's President and Provost, implementation of this plan began in summer 2010. Key features of this plan include:

- 1) An Institute for faculty developing and teaching eLearning partly or fully online classes was launched in June 2010. The first cohort in this institute has 12 faculty members. Every faculty member in this institute was paired with a faculty mentor who is an experienced eLearning instructor. The duration of a faculty member's time in the institute is three semesters. The first semester is for course development, the second semester the course is taught for the first time, and during the third semester a revised course is taught. At the end of three semesters, these faculty members will be eligible to become mentors for faculty entering the eLearning Institute. The second cohort will commence in January 2011.
- 2) A full-time technical support person was hired and started working in September 2010. This is the first time the college has had a full-time technical support person for eLearning. This position reports to the Director of the Academic Computing Center.
- 3) The college is completing a search for an eLearning instructional designer. The role of this person is to help faculty incorporate appropriate pedagogical features into their eLearning courses. This person will work one-on-one with faculty course developers in addition to organizing seminars for faculty. The eLearning instructional designer will report to the Director of the Center for Excellence in Teaching and Learning (CETL).
- 4) The Library has hired an Emerging Technologies Librarian. This person started working in September 2010. The Emerging Technologies Librarian helps faculty find important online resources for their courses and helps develop students' skills with using the Internet as a research tool.
- 5) The college has named an Acting Director of eLearning and is finalizing the search for an Executive Director of eLearning. This person will lead the college's coordinated efforts in eLearning.
- 6) The college has developed a Student eLearning Readiness Program to assess and enhance student readiness for online courses. Currently the program offers 6 modules: 1) Suitability Self-Test, 2) Netiquette, 3) Academic Integrity, 4) Technology Requirements, 5) Demo Blackboard Course, and 6) Student Services, all in a constant state of improvement. The program can be found online at:  
**<http://www.qcc.cuny.edu/eLearning/Readiness>**
- 7) The college has subscribed to the Quality Matters Rubric Standard for online courses. All courses presently under development will be assessed using this rubric.

## Assessment of 2005-2009 Technology Plan Objectives

### Fully Implemented

- In addition, through this Technology Plan, the college will provide support for an increase in individual Distance Education course offerings; and support for University-wide Distance Education initiatives such as the Online BA (Bachelor of Arts). Towards the end of this plan, the breadth of course offerings will be re-evaluated to determine if Distance Education degree programs are appropriate at that time. *(In summer 2010 a faculty eLearning Development Institute began with the goal of broadening course offerings using the Blended (Partly-Online or Hybrid) modality, which is deemed more suitable for our student body. In the inaugural institute, 12 new blended courses were developed, which are scheduled to be offered in the spring 2011 semester for the first time. A similar Institute was offered in winter 2011 with the potential of adding 14 new eLearning courses. New College positions are being established to provide faculty with both technical and pedagogical support in course design and development.)*

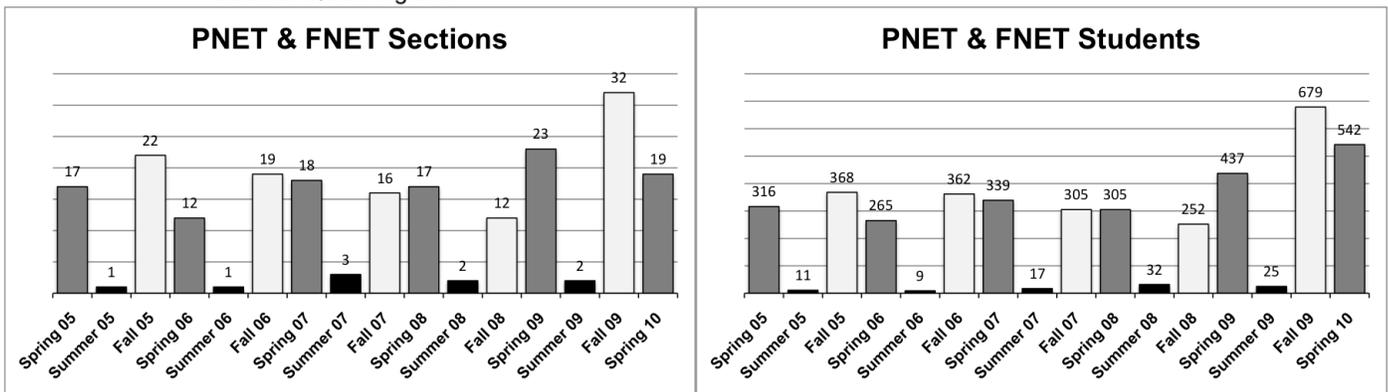
The Special Committee on Distance Education at Queensborough developed the following table and charts:

### Online Courses and Enrollments at QUEENSBOROUGH spring 2005 to spring 2010

Semester	FNET		PNET		Total	
	Sections	Students	Sections	Students	Sections	Students
Spring 05	9	123	8	193	17	316
Summer 05	1	11	0	0	1	11
Fall 05	3	160	19	208	22	368
Spring 06	6	129	6	136	12	265
Summer 06	1	9	0	0	1	9
Fall 06	9	193	10	169	19	362
Spring 07	7	135	11	204	18	339
Summer 07	3	17	0	0	3	17
Fall 07	7	157	9	148	16	305
Spring 08	5	104	12	201	17	305
Summer 08	2	32	0	0	2	32
Fall 08	8	164	4	88	12	252
Spring 09	11	199	12	238	23	437
Summer 09	2	25	0	0	2	25
Fall 09	23	448	9	231	32	679
Spring 10	11	157	8	385	19	542

Source:

Source: QCC Registrar



QUEENSBOROUGH Registrar. In fall 2009, ST100 accounted for 9 FNET sections and 172 students. In spring 2010, ST100 accounted for 16 FNET and PNET sections and 289 students.

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## Looking Forward

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In the future, the college will further enhance its support for eLearning as results warrant and funding allows. Targeted will be:

- Developing learning outcomes assessment tools for eLearning classes.
- Assessing the results of the Faculty's eLearning Institute.
- Upgrading support for students. This effort will consider:
  - Enhancing the Student eLearning Readiness Program.
  - Providing support and tutorials for students taking eLearning classes
  - Providing online tutoring
- Implementing the notion of the Embedded Librarian – a librarian added to an online course to assist teachers in developing research-based assignments and to assist students in navigating library databases and locating the best resources for class projects.
- Assessing whether investing college resources in fully online degree and certificate programs is a sensible way of providing access to education for our community. Such an effort may be conducted solely at Queensborough Community College or as part of a consortium of CUNY community colleges.

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## ∇ Center for Excellence in Teaching and Learning (CETL)

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### Where We Are Now

CETL has a website which is under continuous development in order to expand the resources to support faculty in implementing high impact educational practices, utilizing instructional technology, and conducting pedagogical research. CETL's online calendar of events is regularly updated, and the link to the calendar page is sent with the email announcements about CETL events and initiatives. CETL has a workshop room with eight computers for use by faculty & staff.

In the academic year 2009-2010, CETL worked with Academic Computing Center to support the faculty who are designing online and hybrid courses as part of Queensborough's eLearning Development initiative. CETL held a variety of faculty development workshops designed to familiarize faculty with current research on student learning and instructional technologies. These included:

- Technology Symposium (a showcase of effective pedagogical strategies for using instructional technologies across the disciplines)
- Pedagogy Seminar Series on designing technology-enhanced instruction and assessment (four seminar sessions)
- Pedagogy & technology: Using Web 2.0 tools for teaching and learning
- Using instructional technology for collaboration and reflection activities in Service Learning
- Assessment & Epsilon ePortfolio
- Pedagogy Seminar Series on pedagogy & technology-"Selecting the right tools for engaging students"
- Pedagogy workshop-Creating a graphical syllabus
- Utilizing wikis, blogs, and discussion board in Blackboard
- Creating questions for Clickers in the classroom

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## Assessment of 2005-2009 Technology Plan Objectives

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### Fully Implemented

- In the fall of 05 CETL will work with the faculty who were selected to pilot the ePortfolio (as part of the Perkins Funded project) in their classes in Music and Business, to help them develop assignments that will give students opportunities to demonstrate their achievement of general education goals in work that can then be added to the e-Portfolio. CETL will design a session for the October Conference of the College that will present the e-Portfolio pilot project to the faculty and will feature presentations by involved faculty and discussions of issues of pedagogy, faculty/student buy-in and how to expand the project in the future.
- More pedagogy-focused sessions on Blackboard

### Partly Implemented

- During summer 2005 CETL worked with the ACC to contact the chairs of the Sociology, Business and History departments to enlist their involvement in designing instructional technology projects/plans for

- their departments. In the spring 06 semester CETL-ACC will work with three other departments, to be announced.
- Workshop being coordinated with Institutional Research (IR) to present a new text analysis software package for faculty researchers
  - Advanced use of PowerPoint with focus on the Pedagogy of PowerPoint

#### **Not Implemented**

- Workshop on using EndNote software for faculty researchers

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#### **Looking Forward**

- In fall 2011, CETL will work with the faculty (from Business, ECET, English, Basic Skills, Math, and Massage Therapy) who were selected to participate in the pedagogy seminar series on instructional technology to develop instructional materials that will demonstrate the use of technology for the achievement of general education goals. CETL will offer a technology symposium that will feature presentations by involved faculty and discussions of issues of pedagogy & technology.
- CETL will continue to offer pedagogy-focused sessions at the eLearning Institute for Queensborough's eLearning development cohorts.
- Coordinate workshops on building lessons with SoftChalk and utilizing SoftChalk's interactive features for engaging students.
- Continue to offer the pedagogy seminar series on designing technology enhanced instruction and assessment across the disciplines.
- More sessions on using wikis, blogs, and discussion forums as pedagogical tools in Blackboard.
- Advanced use of PowerPoint & Camtasia with focus on pedagogy.

#### **∇ Assessment**

##### **Where We Are Now**

Assessment is now a defined and recognized part of a culture of collaboration at Queensborough. Faculty members work with other faculty in the department on course assessment and with faculty from other departments in program review. Faculty in the academy cohorts collaborate on developing and using general education rubrics in their classrooms. Administrative offices also participate in assessment activities; in some cases, their assessment work supplements program review. In all cases, assessment informs the overall strategic planning process.

The principal role of technology in assessment involves documentation and dissemination of assessment results. Following the previous self-study, a much-expanded Assessment Web site was developed. Web-driven applications allow designees from academic and administrative departments to upload assessment reports. Course assessment includes information about the general education objectives satisfied. Once posted to the Assessment Web site, any employee of the college has access to the course assessment reports, as models for their own assessment or to inform program reviews or other assessment reports. Program reviews, year-end planning reports, and Academy assessment reports are also posted to the Assessment Web site.

Technology also plays an important disseminating role in articulation. A Web-driven database populates basic information faculty, staff, and students may use to see which degree programs articulate with programs within and outside CUNY. Effective transfer is an important part of the assessment of the student undergraduate experience, and an expanded database displaying clearer and expanded information can be a valuable tool to the campus.

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#### **Assessment of 2005-2009 Technology Plan Objectives**

##### **Partly Implemented**

- Over the last six years, the College has focused on assessment as a vital and integral aspect of its self study process. As this Technology Plan evolved, assessment has emerged as the next necessary process to advance pedagogy and tools for effective student learning. The College must assess the impact and outcome on learning of equipment, pedagogy, and instructional delivery formats. Outcome assessment of online courses has been incorporated in our strategic plan. (*This objective is in progress.*)
- The importance of student and faculty readiness to maximize the use and impact of instructional technology is clear. The need to assess students' computer literacy—their skills and comfort level—resulted from faculty observations of the wide range of skills presented in the classroom and in online formats for

instruction and learning. The need for faculty development programs and activities to support training in both pedagogy and instructional technology was reflected in comments from faculty both experienced and interested to learn. *(This objective is in progress. For example, an eLearning Readiness Program is under development to help determine whether students are prepared to succeed in an online course.)*

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### Looking Forward

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Strategic objectives for the use of technology for assessment or other initiatives or for the assessment of technology use include:

- Expand the capability of the Assessment Web site to archive older course assessment reports rather than just replacing them with the latest assessment report
- Develop an interactive version of the Assessment Handbook, featuring short video explanations by faculty and administrators
- Working with the eLearning cohorts, develop prospective models for course-level assessment of the instructional technology and its impact on student learning
- In a collaboration between eLearning faculty and the learning centers, develop prospective models for the assessment of e-tutoring
- Modify and expand the articulation database on the OAA Web site to allow for a much wider display of college-to-college articulation criteria

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## ▽ Office Staff & College Laboratory Technicians (CLTs)

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### Where We Are Now

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The technical staff, whether in the Information Technology Department (IT), the Academic Computing Center, or the Academic departments, has felt increased pressure to satisfy the ever-growing technological needs of the college. For example, technicians who support Academic Departments have seen their responsibilities grow to include more than 50 classrooms with multimedia podiums, and 10 more podiums are scheduled to be added in spring 2011.

Both office and technical staffs are required to deliver increased technical services to both faculty and students due to increased use of classroom podiums, learning management systems such as Blackboard and Epsilon, the implementation of CUNYfirst, and continued increase in the use of faculty and student email. It is therefore important to provide opportunities for updating and improving their technology skills. It is with this in mind that, during the 2005-2009 Technology Plan timeframe, both office and technical staff were invited to attend all faculty development workshops, and many took advantage of that. However, there is a need to provide more focused training sessions covering topics specific to the needs of office and technical staff. Although more is needed, recent examples of such sessions include the CUNYfirst training sessions for office and technical staff members and the 5-day Virtual Machine class conducted for CLTs from the ECET department – both hosted by the IT Department.

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### Assessment of 2005-2009 Technology Plan Objectives

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#### Fully Implemented

- Updating the skills of technical staff is essential *(Over the course of this 5-year plan, all technical and office staff members were invited and welcomed to the ACC Workshops.)*
- As funding allows, proper support staffing levels will be maintained.
- For Office Staff, continue the practice of conducting workshops covering intermediate and advanced uses of Office software products as well as new tools that allow them to work more efficiently. *(Special workshops have been offered to address the needs of individual departments – both administrative and academic.)*

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### Looking Forward

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It is most important that we continue to improve the skill-level and efficiency of both office and technical staff. To achieve this going forward, the College will:

- Continue to invite both office and technical staff to attend faculty development workshops
- Make available training opportunities that develop CLT skills in the support/maintenance/security of technology in their department facilities
- Establish a parts closet that contains two full sets of podium technology to make repairs more efficient
- Develop an application to make classroom technology problem-notification more formal and accurate

- Install a new swipe lock technology that centralizes the assignment of room access permissions

## ▽ Information Technology

### Where We Are Now

The Office of Information Technology (IT) is responsible for Administrative Computing, email systems, office PCs, and Wired and Wireless Networks at Queensborough. SIMS was replaced in November 2010 by the new CUNYfirst Student System. IT also develops and supports systems that meet the specific needs of departments at Queensborough like the Faculty and Staff Adjunct Payroll system.

A significant effort had been made by IT to deliver Web and network-based self-service applications like Web Advisement / Scheduler / Registration / eAttendance and eGrades. These systems helped prepare the campus for the Web-delivered services of the new CUNYfirst system. . In addition, the Faculty and Staff Email and Student Email systems are supported by IT as well as the office PC Help Desk, CUNY Portal Help, CUNYfirst Help and all aspects of Network Security.

In order to support the goals of the Technology Plan over the past four years, the following infrastructure enhancements were made:

- The campus Internet connection speed was increased from 30 Mbps to 100 Mbps and again to 300Mbps to support video multi media/ CUNYfirst and increased use of the Internet.
- The campus-wide wireless network was updated from “B” to “G” and then to new “N” standard devices. Eighty percent of the network infrastructure’s edge switches were upgraded to the new 1 Gbps speed. The network has been expanded from 3,000 to 4,300 nodes. The two network core switches were upgraded to new Nexus units for 10 times faster backbone speeds now and positioning for 60 times faster speed in the future. For the first time, the campus enjoys true Core Switch redundancy with multiple Internet Service Providers
- This explosive network growth could only be supported by using sophisticated Remote Network Management Software tools. HP Openview software has been replaced with Fluke software. The wireless network is now remotely managed by Aruba software
- The entire Network Operations Center is now isolated from power fluctuations by a centralized UPS (battery) system
- A Netbot Blocking Appliance has been installed and configured with firewalls
- Several other network security devices have been installed
- The CUNYfirst Student System is now live at QUEENSBOROUGH
- Weekend On-Call support was extended during key conversion periods with on site Saturday help, and it is now open on Tuesday and Wednesday nights until 7:00PM
- The Room Utilization Analysis software (X 25) has been installed and loaded with instructional facilities information.
- Campus desktop PCs are protected by Antivirus software that is automatically kept up to date
- A new energy-efficient Network Control Room redundant air-conditioning system has been installed.
- A new building backup generator supports the Network Control Room
- New physical security precautions have been implemented
- Iron Mountain has been contracted for media storage
- Security awareness classes are held and brochures are distributed
- An energy-efficient, redundant blade server has replaced 79 individual units

In response to campus needs, over the last five years, the IT department has created systems to:

- Track incidents for Public Safety
- Enhance the Office of Faculty and Staff Relations Adjunct Payroll System
- Convert Financial Aid Bookstore Vouchers to a Debit Account and then to direct deposit
- Developed an Academic Risk Alert system with IBM
- Supported the creation of Compass PC-based placement testing labs
- Revised Automated Foreign Language Placement based on high school transcript information
- Track students on probation
- Track College Now students, with data reporting to Central Office

- Automate the Counseling Center Log
- Track GED efforts
- Provide faculty with an email roster for each of their classes refreshed during the Add / Drop period
- Email grades to students as posted
- Support expanded Blackberry and other smart phones
- Implement the FACTS Financial Aide system
- Automate Pell awards and enhance degree audit process for TAP
- Automate Financial Aid Award letter process. QCC's system is now used by all CUNY campuses
- Systems in support of High Impact Learning and track compliance with writing-intensive requirements
- Moved applying for graduation online

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#### Assessment of 2005-2009 Technology Plan Objectives

##### Fully Implemented

- Plan for an increase in network wired speed
- Move Wireless access to a higher speed to support multimedia.
- Run Web self service applications on clustered load balanced redundant servers.
- Install a Web grade-posting application.
- Control all campus PCs with PC energy usage management software.
- Allow Students to change their Tiger Mail passwords.
- Select and install an Enterprise Spy ware/ Ad Ware solution

##### Partly Implemented

- Upgrade its Email systems to the latest versions. (*Upgraded to Exchange 2007*)
- Provide all students with network based storage as a Floppy replacement. (*Replaced by student Thumb Drives*)

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#### Looking Forward

The IT department:

- Is fully committed to supplying the campus with robust, reliable, and secure wired and wireless networks.
- Will constantly monitor for security threats and develop strategies to minimize them
- Will (if appropriate funding is available) continue to advance Queensborough's technology infrastructure as demand grows
- Is committed to making CUNYfirst successful, meeting all of the functionality and reporting needs of the Queensborough campus under this new system
- Will develop the Help Desk into a more encompassing Service Center to support the new environment of CUNYfirst
- Upgrade remaining network edge switches to 1Gbps speed
- Double network backbone speed to 80 Gbps
- Will pilot/evaluate a Virtual Desktop environment
- Will explore the practicality of Oracle Discover or iStrategy for report generation
- Will select Log Management software to automate security monitoring

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#### ▽ Business and Financial Services

##### Where We Are Now

Currently, the City University of New York is undertaking the complete replacement of all its key student, human resources and financial systems in a project known as CUNYfirst. This long term project will completely replace and modernize all the systems and data that the University relies on—in an integrated and comprehensive database environment. At this time, the University has completed the system-wide implementation of three of the key business components of the CUNYfirst project: budget, financial ledger and human resources.

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#### Assessment of 2005-2009 Technology Plan Objectives

##### Fully Implemented

- The trend toward the electronic medium will expand to internal communications on budget and expenditures. Activities such as direct deposit of employee paychecks, online supply ordering, online room

reservations, online printing services requests, and online B & G work requests are examples of the growing use of technology to provide user friendly and more efficient business services. E-Procurement, an online purchasing system, is underway, with full implementation planned for FY 06. As the use of technology in this sector increases, staff development in these offices will be needed, along with some support services for their clients.

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### Looking Forward

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As of the spring 2011 semester, two of the colleges (Vanguards, or first to implement), including Queensborough Community College, went live with the student systems for registration, student records, and student financials with all other colleges to be phased in over the next two to three years.

- With the implementation of payroll module planned for January 2012 and accounts payable and procurement in July 2012, the fully integrated system will be in place.
- Queensborough is ideally positioned to leverage this state-of-the-art data base and systems technology to revamp administrative tasks and the delivery of services to students, faculty, staff
- The use if the ID card for security access to classrooms, as well as the new exterior door security system project, together with other access and service needs, compels the reevaluation of the current ID card system to either upgrade implement a new system capable to meeting these various needs
- Expand the internal door wireless lock system to all buildings and integrate with the external door security system
- Implement the CollegeNet 25-Series space management system to improve resource allocation

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## ∇ Enrollment Services and Management

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### Where We Are Now

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Over the past several years Queensborough Community College has been making great strides in improving enrollment services offered to both new and continuing students. Recent improvements include the expansion of online services in the following areas: registration, advisement and scheduling. Technology is a critical tool to be used to further enhance the enrollment services of the college.

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### Assessment of 2005-2009 Technology Plan Objectives

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#### Fully Implemented

- **Automated In-Person Customer Service System** - During peak in-person enrollment service periods (August, September and January), all offices experience an extremely high volume of in-person student foot traffic and thereby create a long waiting period for students to be served. In an effort to reduce the amount of time spent by students waiting on line, the implementation of a newly designed “DMV-like” advisement, registration, financial services, and bursar queuing system, complete with the utilization of hand-held technology using campuses existing wireless infrastructure, would seek to enhance the student experience by eliminating bottle-necks and frustration.
- **Call Center** - Another challenge faced by the college during peak enrollment service periods is the effective management of in-bound telephone calls. With the high volume of in-person student foot traffic and back-office paper work, the in-bound telephone calls are not being given the proper level of attention they deserve, thereby creating student dissatisfaction.

The implementation of a “call center” to be used only during the peak periods of August, September and January would be a tremendous “value-added” service for our customers. A phone bank manned by approximately 10 -15 enrollment services specialists who are cross-trained in all enrollment services areas would handle all incoming calls during this period for the following offices: admissions, academic advising, testing, financial services, registrar and bursar. Removing the constant ringing of telephones in these offices will allow for improvement with in-person customer service and back-office paperwork processing. *(The Call Center operates year round and is open from 9 am to 5:30 from Monday through Friday. It handles incoming calls for Financial Services, Admissions and Academic Advisement.)*

- **Financial Services System Analyst** - The use of technology has expanded in the area of student financial assistance over the last 10 years; however the college has not been applying technology to its fullest level within the day-to-day operation of the Office of Financial Services. The creation of a Systems Analyst position within the office would allow for the development of new initiatives, act as a liaison between the University Application Processing Center, the University’s Computing and Information Services

- department and the College's Information Technology department, manage the daily/weekly interfaces of data in electronic format, provide statistical reports, and run all financial reports through the Office of Student Financial Assistance and the University Controller's office. The creation of this position would enhance the service to students, increase the efficiency of the office and maximize the cash flow of the college
- **In an effort to improve the management of day-to-day paper flow and record retention, it is recommended that the college embark upon the use of imaging. The Office of Admission is currently using the imaging technology used by the University Application Processing Center which assist with the processing of new student allocations to the college. However, imaging at the campus level would be of tremendous value to the college. Equipment and the deployment of personnel to manage the system would be needed.**

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### **Looking Forward**

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The focus for the Department of Student Affairs is increased admission, enrollment and retention activity to be achieved as follows:

- **Development of an electronic “one-stop” guide for student use - point of inquiry through graduation**  
This project, tentatively titled “My QCC,” encompasses the MAP (“My Action Plan”) described in the 2005-2009 Technology Plan. The goal is to provide students with an integrated platform that tracks their progress through the enrollment stage: testing, health service requirements, CUNY commitment deposit, financial aid, advisement, registration, residency requirements, bill payment, and attendance at Freshmen Orientation programs.

Once students begin their first semester, this personalized platform will coordinate their progress and incorporate existing advisement and retention services, including “early alert,” “academic alert,” and outreach for advisement, financial aid and registration for upcoming semesters. Initial transfer and career planning would be included, and tie together existing technology tools such as FOCUS and e-portfolio.

Currently, the College has many key tools geared toward improved advisement and retention activity, including the newly launched CUNYfirst, the Early Alert project now being piloted through the STEM Academy, TIGER TRACKS, and – in use by Admissions for prospective students, Hobsons, a CRM system purchased by CUNY for all admissions offices. Working with New Student Enrollment and the Freshman Academies, the Admissions is expanding and personalizing its use of the HOBSON system to improve service to incoming students and more effectively increase our conversion of applicants into registrants.

The initial stage, therefore, for this project will be the examination and analysis of current tools, potential expansion of CUNYfirst, other services including RETAIN, a retention system offered by Hobsons. This investigative period would also allow the College, beyond Enrollment Services and the Freshman Academies, to identify/incorporate other stated goals such as those defined in the current Title V grant.

Another potential outcome of this ambitious project is improved communication among students and members of the college community, and the promise of considerable savings in print and mailing costs to prospective and incoming students.

- **Continuation of COLLEGE 101**  
COLLEGE 101 represents the first part of the College's two-part required orientation program for incoming freshmen. It includes a 60 to 75 minute Technology Workshop that introduces newly registered freshmen to the tools they need to be informed and successful, including Tiger Mail, CUNYfirst, an overview of the QCC web site, CUNY Alert and E-Portfolio. As the college moves more toward using Blackboard and E-portfolio in classes, this orientation prepares the freshmen for these opportunities. Approximately 85 % of the new freshmen attended COLLEGE 101 for the Fall 2010 semester. (Note: This initiative provides the perfect gateway to our proposed “MY QCC.”)

- **Enhanced services for the CALL CENTER**  
The Call Center was effectively launched during the last year. However, the following improvements are proposed:
  - Purchase and use of an “auto-attend” system that would provide tracking of incoming calls by time, area of inquiry, length of call, etc.
  - Launch of a “cross-training” campaign for Call Center staff to insure broader knowledge and answers to more generic questions.
  - Exploration of outgoing calls as well as email messaging by members of the Call Center staff, to be developed and monitored by key offices. (The Call Center at LaGuardia Community College is a model as it provides a range of expanded services for several college departments.)
  
- **Improve technology for more effective service to students**
  - Explore text messaging for communications to new and current students.
  - Explore document imaging thereby saving time and inconvenience for students

▽ **College Initiatives**

**Where We Are Now**

The College is in the midst of replacing all of the major systems that support its administrative functions with the new CUNYfirst ERP system. Presently, this initiative is consuming a great deal of the College’s technology resources as we relearn how to deliver CUNY and campus-specific services and support. There are many labor-intensive work-arounds that must be automated for the long-term viability of the college, and many new reports / subsystems to be mastered. As a vanguard campus, Queensborough is involved in the design and implementation of all interfaces to this new system.

The new Freshman Academies are now being supported. This includes Academy staff and office space with its computers and software, and the Academy Tracking database system.

As part of our sustainability initiatives, Queensborough has replaced most of the data center servers with a Blade Server using Virtual Server technology, the Data Center air conditioning unit has been replaced by an new efficient unit, PC energy-saver software turns off desktop PCs left on after hours, and motion sensing lighting has been installed across the campus.

**Assessment of 2005-2009 Technology Plan Objectives**

**Fully Implemented**

- In other cases, such as large-scale experimentation with and possible adoption of such ideas as e-Portfolios and My Academic Plan, the technical needs are large. Whether done in-house or outsourced, both initiatives will require hardware, software and support personnel to function in a proper way. Each could well become a significant financial and time component of any technological efforts by the campus.
- Initial funding for a pilot of the e-Portfolio project is being provided by a Carl D. Perkins Grant. As the project expands additional funding will be sought.

**Looking Forward**

At some point, the CUNYfirst system will be running smoothly. It will exist in a basic form for a few years as the other CUNY campuses convert to it. In the meantime:

- Queensborough-specific shadow support systems will be eliminated whenever complementary functions are discovered or activated in CUNYfirst
- Shadow system functions not found in CUNYfirst will be re-engineered to run on CUNYfirst data feeds
- An upgraded VOIP (Voice Over Internet Protocol) telephone system will be researched, purchased and deployed, adding such features as: voice mail systems for the call center, admission, bursar and registrar’s offices
- An enhanced Queensborough ID Card system will be researched, purchased and deployed, adding features such as: printing and copying, vending, paying library fines

## ▽ University Initiatives

### Where We Are Now

Since our last Technology Plan, the University raised the Student Technology Fee, charged to all students (with the exception of College Now and Tech Prep), full-time, part-time, and regardless of degree status. This still remains the major source of funding upgrades of existing instructional technology facilities such as laboratories, tutorial centers, and multimedia classrooms rooms.

During the past few years, the University has spearheaded a number of projects that ultimately affect how Queensborough operates. Centralized Portal, Light-Weight Directory Access Protocol (LDAP), e-Permit, and Blackboard services have all been established. COMPASS testing is used for Queensborough's placement exams. CUNY "Big Buy" negotiations continue to save the colleges money on major purchases of both hardware and an increasing library of software. However, in support of University initiatives, an ever-increasing percentage of Tech Fee funding has been devoted to centrally negotiated purchases.

CUNY has made a strong commitment to incorporating the use of information and educational technologies in support of its mission and philosophy of an integrated University. CUNY is utilizing a variety of University-wide groups with institutional representatives selected by the President of the College.

Under the integrated University, technology policies and systems are established for all colleges. Queensborough has adapted Degree Works (degree audit) as part of the CUNYfirst conversion. CUNYfirst has replaced Queensborough's complete continuum of online degree audit, advisement, scheduling, registration, and payment systems.

As part of an integrated University, CUNY initiatives in technology systems (infrastructure, operating and software), continue to influence if not drive changes in the way we develop technologically. As a vanguard early adopter, Queensborough is an active CUNYfirst partner, providing leadership and support for personnel as its various components are implemented. Queensborough is represented on University committees, and we have a crucial role in the decision-making, effective communication, organization, and implementation processes on campus.

### Assessment of 2005-2009 Technology Plan Objectives

#### Fully Implemented

- **SCORE** - There is a **Steering Committee for Online Resources and Education (SCORE)**. Through this group there is now an effort to create an online BA for degree-completers offered through the School of Professional Studies. Queensborough provides representation to SCORE.

#### Partly Implemented

- **ERP** (*now known as CUNYfirst*) - The CUNY-wide adoption of an **Enterprise Resource Plan (ERP)** software package is projected over the next few years. ERP is designed to foster best business practices and uniformity of reporting across all University units. It will entail a long training period, conversion and change in how some departments do business. Better-organized information and easier access to and entry of information are anticipated long-term gains. This major effort will have considerable impact on Queensborough personnel and staff processes during the period of its adoption, requiring a major effort by IT and by many campus offices to bring online. Such a system, once adopted, holds many potential benefits, and we will need to carefully explore them. In anticipation of ERP, the College's network must be kept current to be in a position to carry ERP's projected transaction load.
- **IT Steering Committee** - Through the **Information Technology Steering Committee (ITSC)** the University collects and shares both what is known and what works best in the various units. It also develops and secures systems for use throughout the University. It is projected that the ITSC will further develop into a stronger and more effective effort to integrate information and services and achieve economies when scaling purchases. Queensborough will need to be responsive to the opportunities presented.

#### Not Implemented

- **CUNY ONLINE** - The University will be making efforts to gather, organize and disseminate information concerning the classes offered online at Queensborough and all other CUNY units. There is likely to be the development of degree programs offered entirely online by CUNY. Queensborough will be eligible for participation in such efforts that involve a consortium of faculty and classes. As more specific and

advanced degree programs are developed, Queensborough may involve itself in them.

CUNY Online is also developing online resources for faculty involved in online instruction. Such efforts will produce an increasing number of resources and learning objects being made available to CUNY faculty both in the form of general information and resources and in materials specific to disciplines and academic areas.

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### Looking Forward

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- A standard technology platform will be established for Synchronous Communication / Video Conferencing. It will include the ability to record and archive lectures and meetings both inside and outside of the Blackboard Learning Management System.
- Existing University-wide software licensing will be maintained
- Additional University-wide software licensing will be negotiated
- Work is progressing on Disaster Recovery facilities, which will then be implemented
- CUNY will develop a skills inventory of in-house talent
- The CUNY Academic Commons will become a major force in promoting collegiality at the University
- A document management system will be available to and implemented at each campus
- We will implement Blackboard upgrades including mobile services when CUNY makes them available

## IV. Security and Maintenance

### ▾ Security

#### Where We Are Now

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Network security is provided by the Office of Information Technology (IT). The world of network security has changed dramatically since the 2005 Plan was written. Today, every network connected to the Internet is constantly bombarded with Viruses, Worms, Spy ware, Ad ware, Spam, Botnet attacks, phishing, and hackers. The volume of these attacks increases tremendously every year.

The position of Internet Security Officer (ISO) was strengthened at QUEENSBOROUGH with the addition of a Desktop Security manager. This position is dedicated to maintaining desktop and server defenses at current release levels to keep network problems to a minimum.

Having an ISO and Desktop Security manager has allowed IT to install a gateway firewall and build student lab firewalls that prevent problems originating in student Computer Labs from affecting faculty and staff PCs. Antivirus software is maintained on every campus desktop PC, and updates are pushed-out as they are released. Specialized security appliances check all incoming and outgoing traffic and block botnets, worms, and viruses from transmitting any non-public university data while still maintaining network speed. The state of software security patches is monitored by an in-house Windows Server Update Services (WSUS) application, and updates are released on a scheduled basis. The wireless network exists as a logically separate network from the administrative network. The wireless security layer consists of firewall and security appliances that monitor all incoming and outgoing traffic. Network traffic is constantly monitored for unusual patterns by sniffer software, and internal PCs are scanned for malicious open ports

Other important security measures that have been implemented: A security review of every user's access level is performed every semester; prior to CUNYfirst a mainframe computer security system was installed on SIMS; the IT department offers Security Awareness classes in order to educate faculty/staff and students in security risks and best practices

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### Assessment of 2005-2009 Technology Plan Objectives

#### Fully Implemented

- Major goals relates to security during the next four years include: installing individual devices to handle Virus blocking and Spam blockings functions; rolling out isolating firewalls to protect all labs; installing an enterprise Spy Ware blocking device; increasing the network core switch capability to include Intrusion Detection functionality.

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## Looking Forward

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Security Awareness for all Faculty, Staff and Students is an ongoing goal for Queensborough's IT department. Desktop Virtualization from Redhat will eliminate the need to image PCs due to slowness or malware infections and lower the risk of data theft.

- **SECURITY WORKSHOPS:** It is IT's goal to educate all Faculty, Staff and Students. The lessons learned in class are focused on the security policies developed at CUNY Central Office. This includes but is not limited to generating strong passwords, learning about email spam, phishing and pharming, data backup, encryption, viruses, worms and botnets.
- The workshop teaches Queensborough Faculty and Staff that non-public University data should be guarded against potential theft, and it provides them with general knowledge on how to protect themselves.
- **DESKTOP VIRTUALIZATION:** This technology is the basis of cloud computing. Red Hat offers Desktop Virtualization Interface (VDI) technology, which can eliminate the need to re-image PCs as well as malware infections. This will lower QUEENSBOROUGH's helpdesk calls and lower the risk of hackers controlling an employee's desktop. VDI technology has additional security benefits which can lower the risk of data theft. In a virtualized environment, the user's desktop PC and all its data exist in a centralized server in IT. If the client PC is stolen, it does not contain any user data. Due to the characteristics of VDI, the client PC may never need to be upgraded as the Operating System is running on a server in IT. There are several security and TCO advantages to VDI which can make this a compelling reason to pilot in the near future.

## ▽ Maintenance

### Where We Are Now

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As technology is adopted by a growing number of people, maintenance becomes an ever increasing but necessary burden on resources. The ever increasing base of installed equipment carries an increasing maintenance cost as the equipment comes off warranty. As this inventory ages, software updates become an expanding task and expense. When this equipment becomes obsolete and must be replaced to maintain the status quo, the cost can be sizable. Consumables, such as printer maintenance kits and ink cartridges, paper, projector bulbs, CDs & DVDs, are in constant need of re-supply.

Most new equipment is connected to the network. Behind the network wall jack is new wiring connected to a port on a network switch. The network infrastructure has grown tremendously with the increase of the equipment installation base. This constantly expanding infrastructure must be maintained and kept up to current standards.

Although it can add, sometimes significantly, to the cost of an item, it has been our practice to purchase extended warranties wherever possible. For basic equipment that is out of warranty, we purchase maintenance contracts for which we are billed for time and materials. More complicated equipment necessitates a maintenance contract with updates and access to a Help Desk.

The maintenance of our large and complex system has become a central point of discussions regarding support staff, whether staff persons are assigned to specific departments or staff persons are part of a central support services facility. Beyond the technology infrastructure is the need for maintenance support for technology in instructional facilities associated with individual departments. Currently, courses offered through Blackboard and facilities established through the Tech Fee are supported through the ACC. Email, Web site hosting, the college network, and a host of other applications are supported through the Information Technology Department (IT) seven days a week. As the installation and use of instructional technology grows, the question of how to provide ongoing technical support must be addressed by the College community.

Also, as the technology infrastructure expands and is upgraded, repairs, conversions, and installations will inevitably impact existing services during these activities. Our year round schedule of fall, intersession, spring and multi summer sessions poses an increasing challenge to the IT staff and their attempts to balance required upgrades and necessary service interruptions with minimal inconvenience to the college community.

Several complex systems like the wired network switching, security appliances / software and the wireless network access points are now centrally monitored and maintained by management software and appliances.

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**Assessment of 2005-2009 Technology Plan Objectives**

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**Fully Implemented**

- In the future, as funding allows, Queensborough will keep an inventory of spare components so that the educational process does not have to be put on hold due to lack of available educational technology.
- Remote Control Help Desk software and Remote Network Management tools have helped existing technicians work more efficiently but there comes a point when network/installation base growth must translate to additional support personnel.

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**Looking Forward**

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Some crucial equipment requires 24 X7 support agreements while QCC can function with other equipment on 5X7 service. Equipment must be constantly evaluated for required necessary coverage at least cost.

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**V. The Future of Technology @ Queensborough**

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**Where We Are Now**

Queensborough has a great track record for evaluating, implementing and maintaining new technologies in both academic and administrative settings. The previous Technology Plan pledged that we would continue to keep abreast of developments in Information Technology and in Educational Technologies because of our commitment to developing and supporting excellence in teaching and learning, and that is what we did. Examples include:

- Maintaining our pledge to ensure that no Queensborough student would work on a computer that is more than four years old regardless of curriculum, discipline, or major.
- Hiring and engaging our own students as technology mentors, assisting both students and teachers with technology and teaching-related deployments such as ePortfolio, Blackboard, Camtasia, and SoftChalk.
- Being one of only a few colleges within CUNY to implement an enterprise ePortfolio System
- As a vanguard school, being one of only two CUNY Colleges to implement the Student Solution section of the new CUNY ERP system called CUNYfirst
- Expanding our online course offerings through the eLearning Development Program
- Deploying instructional podiums in 54 classrooms around the campus
- Deploying Digital Signage around the campus to announce upcoming events and to celebrate our successes
- Deploying a Wireless “N” network throughout the campus
- Deploying Apple iPads in the Library to support mobile reference Librarian concept
- Deploying Kindle eBook Readers in the Library to test the efficacy of that technology
- Building and deploying a fully online version of ST-100
- Deploying Student Response Systems (Clickers) in various pilot programs
- Using technology to facilitate greater awareness and utilization of sustainable practices, including a website application to facilitate carpooling/ride-sharing for faculty & staff; enforcing the College policy of double-sided printing; purchasing energy-efficient technologies;
- Being active members of the CUNY IT Steering Committee
- Being active members of the CUNY Committee on Academic Technology (CAT)
- Being active members of the CUNY Academic Commons

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**Looking Forward**

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Queensborough will continue to evaluate new technologies and implement them in ways that enhance the teaching and learning environment, as well as ways that make the administration of the college more efficient. While the future of technology is impossible to accurately predict, the following are technologies that we will be evaluating, exploring and in some cases implementing in the near term:

- Online technology support for students and faculty including how-to’s, processes, technology and opportunity availability, proper contact information, problem reporting, etc.
- An educational technology sandbox where faculty members can work with, and develop pedagogically sound uses of, new and emerging technologies
- A reduced-technology-set in classrooms (projectors with connectivity and control systems)
- A Content Management System (CMS) with appropriate training
- A Constituent Relationship Management (CRM)

- Asynchronous Communication / Video Conferencing
- A Lecture Capture and Archiving
- Online academic support / eTutoring for students
- An extended ride-sharing application to accommodate student use. Using ride-sharing either alone or in conjunction with Queens College, as a means of reducing carbon emissions/carbon footprint of the campus, and to contribute to the easing of transportation and commuter concerns
- A Document and Digital Asset Management System
- A Technology-use tracking and assessment system
- Text Messaging (SMS)
- eBook readers and digital textbooks
- Smart Phone and Tablet computer application development and management
- Appropriate usage of social networking applications – Facebook, Twitter, etc – as teaching/learning tools
- An enhanced Oracle database system to support QCC-specific systems from CUNYfirst data
- Wired and wireless security access systems
- Additional digital signage throughout the campus as new spaces are identified
- More up-to-date information portals replacing existing kiosks
- Expanded printing where feasible
- The use of mobile technology for teaching and learning – laptops, smart phones, tablets, etc.

## ∇ Promoting awareness and use of Technology

### Where We Are Now

Queensborough continues to provide for and further develop presentations, workshops and training programs for faculty, staff and students, so that participants become more aware of the value as they learn to use technologies within the educational program.

### Looking Forward

- Develop and promote a Queensborough webpage which will: make the campus community more aware of existing educational technology resources; and host Queensborough-developed educational applications and other downloadable digital content.
- Promote faculty use of the CUNY's Academic Commons to: facilitate campus-based group projects so that CUNY can become more aware of what Queensborough is doing and so that Queensborough faculty can become more aware of what others in CUNY are doing with regard to educational technology.
- Host a "Technology Day" for the campus where successful and experimental uses of educational technology can be demonstrated, and materials can be distributed to facilitate exploration and possible replication
- Create online technology support Web sites for both students and faculty including how-to's, processes, technology and opportunity availability, proper contact information, problem reporting, etc.

## ∇ Implications for policy, practices, and facilities

### Where We Are Now

The Queensborough Technology Plan has been and will be under continuing review in the light of many factors, including the development of new policies, practices and facilities at the College and within the University.

In the design of any new buildings to be constructed it is expected that there will be a great presence of the information and educational technologies throughout the structures and in nearly all of their spaces in a variety of ways.

As the Academic Senate Standing Committees on Computer Resources and on eLearning review college practice and resources and consider the mission of the college there may be actions recommended by the Academic Senate with regard to policies that may relate to the technology resources of the College. Such policies will be taken into consideration by the process that reviews this Technology Plan.

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**Looking Forward**

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- With input from the appropriate campus constituents, Queensborough will develop a policy statement regarding the procurement and use of technologies which support the University's sustainability efforts
- Queensborough's Web site Committee will continue to monitor and update the College Web Site Policy in an effort to keep it current with regard to technological advances and the needs of the campus community
- Queensborough will work in concert with the CUNY CAT R&D Sub-Committee to establish itself in a leadership role in researching, implementing, evaluating and publishing on advancements in educational technology

**▽ Support****Where We Are Now**

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The College has developed programs and sources of support for students, staff and faculty. There is much evidence of the focus on the effectiveness of the support for the instructional program. The College has increased the amount and variety of educational technology as well as support for it and encouragement of its use. There has been much attention and support given to establishing an infrastructure of support for student and faculty that has become institutionalized. The continuing need is acknowledged, and a high priority appears to have been set for providing the resources to meet that need.

Funded by the Student Technology Fee, student mentors already serve ePortfolio and eLearning projects both in the classroom and in workshops given throughout the year. Student mentors also serve as Help Desk personnel and open computer lab assistants.

An online eLearning Readiness Program has been developed to help support students who take or wish to take online courses

The IT Help Desk is now also the CUNYfirst CRM help desk. There are new evening hours on Tuesdays and Wednesdays until 7:00 PM.

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**Assessment of 2005-2009 Technology Plan Objectives**

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**Partly Implemented**

- As the use of the information and educational technologies continues at the College it is expected that the current programs and sources of support for students, staff and faculty will be further developed to meet the increasing demand. With accent on the effectiveness of the instructional program support services will be expanded as to the forms and amounts available both on campus and online. *(New lines have been approved and posted to support both pedagogy and development of online courses. An additional CLT line has also been added to the ACC. It is expected that once all new hires are in place, a more comprehensive support program can be developed for classroom uses of technology, Web site application and online course development.)*

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**Looking Forward**

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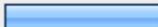
- As information and educational technologies have become part of the infrastructure, the College will continue to assess their effectiveness and make plans to address particular needs as well as the continuing growth of use, and demand for further use. As new technologies emerge and are adapted and adopted for use with the instructional program, the College will continue its tradition of developing the resources to support their use and assess their effectiveness.
- Support services provided by student mentors will continue and grow as funding allows
- Additional online support will be developed for both students and faculty

## Appendix I - Technology Statistics

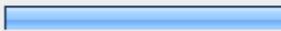
Number of:	2001	2005	2010
Internet connection speed	1.5Mbps	20Mbps	> 300 Mbps
Wired network nodes	1,200	3,000	4,300
Switches - wired network access *new large capacity switches	100	160	150 *
Wireless access points	0	95 (11 Mbps)	135 (300 Mbps)
Classrooms with wired Internet connections	0	175 (All)	175 (All)
Fixed smart rooms (college)	0	11	54
Fixed smart rooms (departmental)	2	35	40
Mobile teaching podiums	0	12	12
Bb Courses	0	350	1141
Students using Bb (non-unique)	0	4,700	23826
Faculty Members using Bb	0	85	563
Fully online courses	0	14	33
Partly online courses	0	30	34
Faculty/Staff/Adjunct email accounts	725	1,100	2,500
Student email accounts	0	12,000	14,500

## Appendix II – 2010 Technology Plan Survey Selected Results

What follows are some of the more significant results of the survey:

1. What is your affiliation with Queensborough Community College? (Choose one)		
	Response Percent	Response Count
Administrative Staff 	27.8%	108
Full-Time Teaching Instructional Staff 	33.2%	129
Part-Time Teaching Instructional Staff 	12.4%	48
Non-Teaching Instructional Staff 	10.1%	39
Support Staff 	16.5%	64
	<i>answered question</i>	<b>388</b>
	<i>skipped question</i>	<b>0</b>

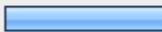
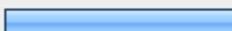
Survey respondents were split 50-50 with regards to teaching and non-teaching.

3. Do you teach classes at Queensborough?			Response Percent	Response Count
Yes			49.5%	192
No			50.5%	196
			<i>answered question</i>	388
			<i>skipped question</i>	0

Workshops covering Learning Management Systems and ePortfolios hold the most interest.

4. The College should provide workshops covering the following educational technologies (Please prioritize 1=highest, 7=lowest)									
	1	2	3	4	5	6	7	Rating Average	Response Count
Learning Management Systems (Blackboard & Epsilon)	53.3% (90)	6.5% (11)	14.2% (24)	7.7% (13)	7.1% (12)	3.0% (5)	8.3% (14)	2.51	169
ePortfolios	26.1% (40)	19.6% (30)	19.6% (30)	10.5% (16)	7.2% (11)	4.8% (7)	12.4% (19)	3.16	153

From the next two questions potential participants want either a stipend or released-time to participate in extended development programs.

5. Would you participate in a year-long faculty development program? (Choose one)			Response Percent	Response Count
if given released-time			28.6%	50
if given a stipend			41.1%	72

6. Would you participate in a summer faculty development program? (Choose one)			Response Percent	Response Count
if given released-time			11.4%	20
if given a stipend			58.9%	103

Almost 55% of faculty respondents are already using Blackboard

7. Which best describes your current Blackboard usage? (Choose one)		
	Response Percent	Response Count
I am NOT using it for any classes 	45.4%	79
I am presently using Blackboard 	54.6%	95
<i>answered question</i>		174
<i>skipped question</i>		214

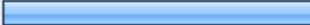
39% of respondents do not use Blackboard because they don't know pedagogically how it fits into their courses

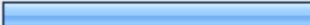
I don't know, pedagogically, how to fit Blackboard into my courses 	39.0%	30
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More than 84% of respondents are not using the Epsilen system

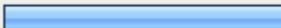
I am not using any Epsilen components in my classes 	84.2%	139
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And while 56% said they are not planning to use Epsilen, more than 31% said they plan to add the use of ePortfolios to their classwork.

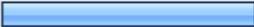
I have no current plans to increase my usage of ePortfolios 	56.4%	93
I am considering adopting ePortfolios for one or more classes 	31.5%	52

I have no current plans to increase my usage of ePortfolios 	56.4%	93
I am considering adopting ePortfolios for one or more classes 	31.5%	52

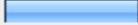
More than 50% of respondents are comfortable with classroom podiums. Another 40% want to learn more about them. More than 78% were satisfied with classroom podium functionality.

16. Which best describes your use of FIXED instructional presentation systems (fixed podiums) in the classroom? (Choose one)		
	Response Percent	Response Count
I currently use them and feel comfortable with the technology 	50.3%	83
I currently use some aspects of them, but would like to attend a hands-on training session on how to use some or all of the equipment 	20.0%	33
I don't currently use them much or at all, because I need a training session in this area 	20.0%	33
I currently don't use them much and don't see how these systems would add to the learning experience of my students 	9.7%	16
<i>answered question</i>		<b>165</b>
<i>skipped question</i>		<b>223</b>

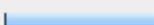
More than 45% of respondents would like to use clickers while teaching.

24. Do you use CLICKERS while teaching? (Choose one)		
	Response Percent	Response Count
Yes 	7.3%	12
No, but I would like to 	45.7%	75
No, not interested 	47.0%	77
<i>answered question</i>		<b>164</b>
<i>skipped question</i>		<b>224</b>

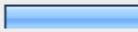
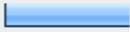
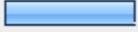
More than 48% of respondents indicated that they would like to teach an online course

34. Would you like to teach a Distance Education course? (Choose one)		
	Response Percent	Response Count
Definitely Would NOT 	11.0%	18
Probably Would NOT 	16.6%	27
Not Sure 	23.9%	39
<b>Probably Would</b> 	<b>24.5%</b>	<b>40</b>
Definitely Would 	23.9%	39
<i>answered question</i>		<b>163</b>
<i>skipped question</i>		<b>225</b>

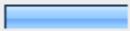
More than 46% of respondents indicated that they would use the Blended modality if they were to develop an online course. More than 49% thought that the College should develop more online courses, but only 27% thought that we should offer on line CERTIFICATE or DEGREE programs.

36. If you were to develop an online course, which Distance Education mode would you use: (Choose one)		
	Response Percent	Response Count
Fully Online (Asynchronous) 	22.2%	28
<b>Partly Online (Blended / Hybrid)</b> 	<b>46.2%</b>	<b>54</b>
Synchronous (via video conferencing) 	4.3%	5
Not sure 	27.4%	32
<i>answered question</i>		<b>117</b>
<i>skipped question</i>		<b>271</b>

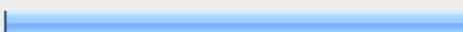
More than 42% of respondents would like to record their lectures and make them available online.

41. Given the opportunity would you have videos or audio recordings of your lectures placed online for students to access? (Choose one)		
	Response Percent	Response Count
Definitely Would NOT 	11.2%	18
Probably Would NOT 	24.2%	39
Not Sure 	22.4%	36
Probably Would 	23.0%	37
Definitely Would 	19.3%	31
<i>answered question</i>		<b>161</b>
<i>skipped question</i>		<b>227</b>

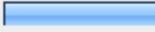
While more than 78% of respondents give assignments that require Internet research, only 55% require the use of Library databases, and only 18% give assignments that require the use of the College’s **Supplemental Educational Resources (Art Gallery, KHRCA, and QPAC)**

44. I give my students assignments that require the use of the Internet for research (Choose one)		
	Response Percent	Response Count
Yes 	78.3%	126
No 	21.7%	35
<i>answered question</i>		<b>161</b>
<i>skipped question</i>		<b>227</b>

More than 84% of respondents have NOT taken the available Security Awareness training.

58. Have you taken the CUNY Home/Office Security Awareness training? (Choose one)		
	Response Percent	Response Count
Yes 	15.7%	50
No 	84.3%	269
<i>answered question</i>		<b>319</b>
<i>skipped question</i>		<b>69</b>

More than 72% of respondents find it easy to locate what they want on the College Web site.

66. Is it easy to find what you're looking for on the Queensborough Web site?		
	Response Percent	Response Count
Yes 	72.5%	224
No 	27.5%	85
	<i>answered question</i>	309
	<i>skipped question</i>	79

### Appendix III – Glossary of Terms

The following are definitions for some special terms encountered in this Technology Plan:

- **eTeam:** a group of faculty members and administrators spearheading and providing direct support for the campus' eLearning initiatives via the Office of Academic Affairs
- **Wireless-N:** the latest wireless internet standard providing 300Mbps speed – a.k.a. Wi-Fi for use by mobile devices
- **CUNYfirst:** CUNY's brand name for its PeopleSoft ERP implementation (**Fully Integrated Resource & Service Tool**)
- **ERP:** Enterprise Resource Planning – a set of well-integrated software components needed to run an organization.
- **Student Mentors:** a group of technology-savvy students, hired under the Tech Fee Intern Program, who provide support for the various technology initiatives around the campus including ePortfolio, eLearning, Service Learning, College 101, and the virtual learning communities known as the Student Wiki Interdisciplinary Group (SWIG).
- **Faculty Mentors:** a group of online-experienced faculty members providing direct support as they each guide a small group of inexperienced faculty members through the process of creating quality, standards-based online courses.
- **PNET:** Partly Online course designation – a.k.a Blended or Hybrid courses
- **FNET:** Fully Online course designation – a.k.a. Asynchronous courses
- **CETL:** Center for Excellence in Teaching and Learning