Kingsborough Community College
Student Technology Fee Plan
2012-2013

Over the past decade, the students and faculty of Kingsborough have benefitted immeasurably from the consistent and predictable support afforded by the Student Technology Fee. As opposed to the erratic and idiosyncratic approach to technology planning that characterized the early years of instructional technology, the Tech Fee (in both process and product) has allowed College leadership to engage in a systematic approach to planning that has resulted in predictable and measureable outcomes. With the ever changing technology landscape, however, the greatest challenge to the Technology Committee over the years has been to attempt to stay ahead of the curve and make both wise investments in technology that advance the academic agenda of the institution while at the same time positioning the institution to address the emerging needs in student access and academic support. Recent advances in hand-held technology have raised the stakes exponentially.

This having been said, the Technology Fee committee believes that technologically, we are at a watershed moment. While we cannot abandon the current platforms of laptops and PC's, conventional computer labs and Smart Boards, the institution must position itself to meet students and the technology where they currently live. Smart phones, tablets, personal apps, and GPS technology require that we rethink the role of instructional technology and how we can best support our students. This delicate "balancing act" of maintaining the current technology while positioning the institution to exploit emerging technology is, in fact, the challenge that must be met. This provides the basis for the priorities that the institution has set for the coming year. They are:

- Ensuring that the institution makes every effort to remain current with both the hardware and software needed to support faculty instruction and student access
- That all students, regardless of financial means, have free and unfettered access to all of the resources needed to support their instructional objectives
- That all faculty are provided with the resources needed in all venues to ensure that students receive the instruction they need (be it in the classroom or on line) to compete in a growing global environment
- That instructional spaces be designed as flexibly as possible to maximize access to instructional technology
- That the institution continue the process of developing both the support and the infrastructure needed to implement the emerging technologies

As was observed in last year's report of this committee, department specific plans are found in the College's Strategic Plan. In addition to the goals in the Strategic Plan, the work of this committee is informed by the governance process of the institution which includes the College Council, department chairs, faculty, student leadership, administration and the expectations of accrediting agencies including the Middle States Association of Colleges and Schools.

The consensus across the institution is that the Tech Fee Committee can best aid the College in meeting its goals by adhering to the principles of the past. That is:

- Ensuring that the college continues to systematically upgrade hardware and software
- Ensuring that resources are as accessible as possible through loan programs, Wi-fi access and in-class technology
- Ensuring as broad access as possible by expanding lab hours, weekend and evening support, help desk, etc.

As will be seen in the proposed activities for fiscal 2012-2013, ensuring access will require a different strategy. As we move to enable students to use new hand-held technology and provide support for applications ranging from nursing students access of anatomy texts, to directory information on smart phones that give students their professor's office or telephone number or tell them when the next shuttle bus is leaving for the train station, the investment will be less on desk top computing and more on apps and Wi-Fi capability. While the tipping point is yet to be determined, we are confident that with the methodical approach taken by this committee and the guidance of faculty, students and staff, we can continue to ensure the highest level of service possible.

Before proceeding to discussing the plans for next year, a review of the current year's plan is in order. The Committee is proud to report that Kingsborough has met or exceeded the goals set for the current year. The synopsis that follows provides the details on the accomplishments as of this writing.

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TECHNOLOGY FEE
Accomplishments 2011-2012

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Augmentation of Workstation Imaging

Streamlined workstation image deployments - Academic computers now have a unified image. All computers are based off the same core operating system. Labs can be customized based on their specific use. This approach has eliminated hardware-based computer images and we transitioned to software based images. An entire room can be deployed remotely with greater ease and efficiency with very little involvement from the technician. All required information is downloaded from the active directory.

Automated software and security updates

With the introduction of Windows 7, we are better able to leverage the Active Directory to improve the deployment of software and security updates. All computers in the academic areas have Microsoft Forefront Endpoint Protection (anti-Virus), Faronics Deep-Freeze (prevents changes to operating system) and automatic software updates enabled. These enhancements have minimized the threat of viruses and worms on the Academic network.

Augmentation /Maintenance of Networking Infrastructure Project

Many out-of-warranty switches could only accommodate 100 MB with others delivering 1 GB to desktops. The new switches have the ability to connect at 10 GB speeds to core switches and are

capable of being multi homed for business continuity and 24/7 operations. The new switches were deployed in L-304, M-108, M-425 and M-246A.

Application Streaming Project

Initiation of a rapid software deployment system resolved the issue of limited access to computer labs which has made traditional installation nearly impossible. This has improved our ability to address the needs of faculty and students who want certain applications on their own PCs, while at the same time managing software licensing costs. These applications are uninstalled based on time tokens.

Blackboard Mobile Project

Blackboard Mobile Central is a comprehensive suite of campus services targeting students, faculty, administrators, alumni and our broader community on both native and mobile web platforms. It was designed with scalability in mind. Because it is impossible to fully plan for the vast array of devices to come in the future, the College will be building a Central Service to house data so that it can be repurposed across all platforms/devices. In this way iPhone®, BlackBerry®, Android® and future mobile operating systems will be able to access the Blackboard Mobile Central application through the same Central Service on the backend.

Business Continuity Project

In order to support 24/7 operations and to reduce downtime, we have embarked on a project to augment the infrastructure and provide redundancy and fault tolerance where possible. This entailed the augmentation of redundant centralized UPS systems in the data centers running on emergency diesel generators. This allows us to sustain server related operations during short or long power outages. The addition of UPS in the data closets helps maintain network operations during short power outages. The deployment of redundant core network switch which will connect all the labs to an alternate switch located at a backup location, will provide connectivity to network resources in the event the current Core Network Switch fails.

Computerization of Classrooms Project

In order to meet the growing need for computer labs and the demand for workstations for instructional purposes, we have embarked on a project to deploy thin client computers with wireless connectivity in classrooms. They will be using Citrix for application access. We have added over 150 wireless thin clients and plan to add 160 more before the end of the fiscal year.

Digitization of Licensed Media Project

This project will allow for the digitization of media in the Media Center and will support in-class instruction by serving multiple users, classrooms, and lecture halls with on-demand recordings and live streaming over the school's LAN. This eliminates the need for cable drops and DVRs in

every classroom. By replicating the familiar interface of a home DVR, users can schedule, search, and clip recordings using the client software with little or no training.

Deployment of Pharos Sign-up workstation reservation system

Computers in the open labs in L100 A,B, C sections, as well as other open labs will, in the near future, be configured for the exclusive and fair use of Kingsborough students. The introduction of SignUp by Pharos leverages our continued investment in Active Directory. Students will be able to reserve a computer for 90 minutes in the open lab. In addition, the SignUp system also displays a student's place in line. Two large screens have been installed in the L100 area so students know where they are in the cue and can estimate their waiting time. This will significantly improve customer service and reduce the stress for both IT staff and students

Deployed Self-Service Account management system

With the deployment of the new student email system, Pharos Uniprint and Signup, a simple self-service method was needed for student to look up their information. KBAM (Kingsborough Account Management) was created in house to solve this problem. Students are able to look up their email address, reset their password, access their old email (if they were a student prior to fall 2011) and access their new email.

ePortfolio (Digication) Project

ePortfolios are platforms for students, teachers, alumni, and professionals to showcase their work and ideas. They are archives of learning, discovery, progress, achievement and reflection. A few uses of ePortfolios include assessment, admissions, interactive resumes, student galleries, teacher resource sites, collaborative project portfolios, and research presentations. KCC is using Digication for 800 students and faculty.

Faculty Computers

- Replaced 75 faculty workstations based on 4 year refresh cycle

Fashion Design Institute Project

- Expanded access to the Fashion Design Software in Open Labs and added an additional server for the Fashion Design curriculum.

Instructional Software Upgrade Project

- Upgraded Adobe CS from Version 4 in the Mac lab in T5.
- Upgraded of Autocad software to the latest version and procured a subscription to keep the software up-to-date in coming years.
- Upgraded Adobe CS4 to CS5 in S-225, S-214, M-220, M-214 and M-223I.
- Deployed Office 2010 in all labs. Software purchased through ETI.

Library Databases and eBooks

- Increased investment in Library databases for various titles with the direction of both the Chief Librarian and Provost. Will embark on eBooks project.

Print Management

Expanded Pharos Uniprint - Pharos Uniprint (pay for print) has been deployed to all the open lab areas. The introduction of this system has made a huge impact on reducing the waste and abuse of the printers in the open labs. We have also expanded Uniprint to one copier on the second floor in the Library by the elevators. This one copier is part of the campus remote/wireless printing service. This new service will allow students from their own computers to print documents to the copier on the first floor. This service, located at remoteprinting.kingsborough.edu, is accessible both on and off campus on computers running Windows XP or later and Mac OS 10.5 or later operating systems. This is one of the campus' first private cloud applications.

Replacement of Computers and Printers in Labs

New PC's have been deployed to facilitate the upgrade to Windows 7 without sacrificing speed and usability of the systems where needed as detailed below. In all, 330 computers were replaced based on a 4 year refresh cycle.

New Printers were deployed in many labs to increase the uniformity of the labs and / or replace smaller printers with heavy-duty printers where needed as detailed below. Nine network printers were replaced in labs.

The equipment replaced is as follows:

M-109

- Deployed 31 Dell Optiplex 780 computers and a new HP P4015 Printer. Image converted to Windows 7

M-110
- Deployed 31 Dell Optiplex 780 computers and a new HP P4015 Printer. Image converted to Windows 7

M-111
- Image converted to Windows 7. HP P4015 printer Deployed

M-114
- Deployed 31 Dell Optiplex 790 computers and a new HP P4015 Printer. Image converted to Windows 7

M-118 (7 computers total)
- Image converted to Windows 7. HP P4015 printer Deployed

M-125
- Deployed 31 Dell Optiplex 790 computers and a new HP P4015 Printer. Image converted to Windows 7

M-155
- New image created for Tri-boot

M-159
- Deployed 30 Dell Optiplex 790 computers and a new HP P4015 Printer. Image converted to Windows 7

M-200
- Deployed HP 9040 Printer and Upgraded to Windows 7

M-214
- Deployed HP P4015 Printer and Upgraded to Windows 7

M-220A
- Deployed HP P4015 Printer and Upgraded to Windows 7

M-223
- Deployed HP P4015 Printer and Upgraded to Windows 7

M-302 Accounting Lab
- Upgraded 9 PC's to Optiplex 760's Printer upgraded to P2015

M-322
- Deployed HP P4015 Printer and Upgraded to Windows 7

M-350 Fashion Lab
- Deployed 2 new PC's

S-214 (31 computers total)
- Deployed HP P4015 Printer and Upgraded to Windows 7

S-225 (19 stations total)
- Deployed HP P4015 Printer and Upgraded to Windows 7

Podiums

- Added 20 additional Podium Computers
- Podium PC's image switched to Windows7
- All old Dell GX270's and 280's replaced
- Dell GX 620's are currently being replaced with Dell 790's

T6- Testing Center

- 157 PC's upgraded to Dell Optiplex 380's

L-100

- Image upgraded to Windows 7
- 3 Printers Upgraded to HP 9050's
- Pharos Signup implemented on Section A, B and C D to follow

L-200

- Image upgraded to Windows 7

L-218B

- Room Converted to a Computer Lab 37 Dell Optiplex 780's added
- Projector Mounted in Room, configured Teacher Station
- HP Laserjet P4015 Printer Deployed

L-304
- Upgraded to Windows 7 use, upgraded 10 PC's to Optiplex 780's

T-243
- 25 PC's upgraded to Dell Optiplex 780's

T-4264 Cope

- 25 PC's upgraded to Dell Optiplex 780's, Printer upgraded to P2015

Smart Class Room Project

- 3M Projection systems and Smart, White Boards Podiums with computers deployed and installed in 11 additional class rooms.

Smart Labs Project

- Additional ceiling mounted projection systems are being installed in 6 Science Labs. In some labs the installation will entail the installation of LCD screens to replace TV monitors Pixie controls and speakers.

Testing Center test management application

- The Testing center in T6 has been in need of a more effective way to deploy and manage tests to the 130 PCs in their building. In fall of 2011 we created an application that will allow for one proctor to deploy a test to all computers, a single room or even to a single PC. This application was developed in-house to work with the CUNY Compass Testing software. The application has three main components; an admin application, proctor application and a client. The admin application allows the testing center administrator to create tests that can be easily deployed to the computers in T6. The proctor application is used by proctors to deploy tests to all the computers, a select room or to select computers. The test client features a color coded screen. This color screen is unique to the specific test that has been deployed. The use of colors assists students in identifying the test they should be taking. This will reduce the probability that a student will take the incorrect test.

Remote and Wireless Print Management Solution (Pharos) Project

- Expansion of deployed pay-for-print with support for wireless printing.
- Expansion of remote printing from home and wireless station.

Wireless Carts for Classrooms Project

- Deployment of wireless laptop carts with dual-boot MacBook laptops.
  The addition of 3 laptop carts with 20 MacBooks will allow us to provide carts in 5 rooms simultaneously and reduce the need to move students to highly used open labs. The advantage of using dual-boot MacBooks, along with the ability to be able to use both Mac and PC environment, is the extended life of the batteries in the MacBooks, something that was an issue with deploying such carts in the past.

Wireless Expansion and Upgrade Project

- Continuation of the process of upgrading access points to the newer faster N standard and the addition of dedicated access points in class rooms to accommodate wireless access for thin clients. The project entails replacement of 118 access points with N standard access points, the addition of 25 access points to expand coverage and take care of blind spots and 5 new access points for the classroom computerization project.
- Wireless access to be expanded to all mobile devices including Iphones, Ipads, Ipods and Android and Windows based devices.

Windows 7 rollout

Windows 7 has been successfully deployed to the following rooms,
L100, L200, L300, M200, M214, M220a, M223, M109, M110, M111, M114, M119, M125, M159, M322, S114, 4 Mac Laptop Cards(30 laptops each). The remaining

Science labs are projected to be converted in the summer of 2012 pending software compatibility and faculty acceptance.

TECHNOLOGY FEE
Projects 2012-2013

Consistent with the College's goals and objectives as stated above, the Committee offers the following activities for fiscal 2012-2013. It reflects continued support for those initiatives started in the past year along with the ongoing maintenance and support of our installation base. They include:

Augmentation /Maintenance of Networking Infrastructure Project

Expanding the upgrades to include switches on the IC network in the Science Labs in S 1st , 2nd and 3rd Floor. The budget allocation for this Project is $60,000.

Application Streaming Project

Continuing the support for application streaming with the attendant benefits to the College community and the management of software costs. Again, these applications are uninstalled based on time tokens. The total Budget allocation is $ 21,000.

Blackboard Mobile Project

The initial piloting of this project has resulted in a significantly higher than expected demand. This initiative will indeed allow us to support iPhone®, BlackBerry®, Android® and other mobile operating systems accessing the Blackboard Mobile Central application through the same Central Service on the backend. Total cost $29,000.

Business Continuity Project

In order to support 24/7 operations and to reduce downtime we propose continuing to augment the infrastructure and provide redundancy and fault tolerance where possible. Total Budget allocation is $82,000.

Computerization of Classrooms Project

In order to meet the growing need for computer labs and the use of computers for instructional purposes, we have embarked on a project to deploy computers in classrooms and lecture halls. We are planning to add at least 400 wireless thin clients before the end of the fiscal year. The total budget allocation for this project including hardware, electrical work, deployment of

furniture and construction needed to convert the current lecture style rooms for dual purposes including installation is $ 490,000.

Digitization of Licensed Media Project

The continued support for the project detailed above. Total cost $7,000.

ePortfolio (Digication) Project

Current demand for ePortfolios among the faculty indicate that the number of users will grow to 900 students or more in the coming year. KCC plans on using Digication at a total projected budget allocation $6,000

Instructional Software Upgrade Project

- Upgrade Adobe Software to the latest version in all Labs.
- Replace the software in Tourism with Sabre for Travel agent training and Opera PMS budget allocation $12,000.
- Upgrading following Labs to Windows 7
  - M415, M118, M101, M108, F206, S101, S103, S114, S125, S135, S226, S237, S214, S301, S302, S303, S304, S324, S325, S333, S346, S347, S348 V225

Library Databases and eBooks

Expand the resources available through our Library databases and increase the availability of eBooks. Total Budget allocation $ 285,500.

Print Management Solution (Pharos) Project

Expansion of deployed print management system with support for workstation reservations to additional open Labs. Expansion of Remote Printing from home and Wireless Stations, Total Budget Allocation $11,000.

Replacement of Computers in Labs

- Replace 15 existing Podium Computers.
- Add additional 12 Podium Computers for new smart class rooms.
- Replace 75 faculty computers based on 4 year refresh cycle.
- Replace 58 Apple Computers in Graphics Lab T516 and T522.
- Replace 358 computers in the following labs based on 4 year refresh cycle.

LAB	# of Computers
L-100	144
L-200	21
L-705	10
M-111	30
M-118	30
M-200	28
M-214	31
M-220A	32
M-223	32
Total	358

Total Budget allocation for this Project based on current pricing is $495,000.

Replacement of Printers Project

- Replace 7 network printers in Labs. Total Budget allocation $12,000

Smart Class Room Project

- 3M Projection systems and Smart, White Boards Podiums with computers will be deployed in 8 additional class rooms: Total Budget allocation including installation $ 64,000.

Smart Labs Project

- Additional ceiling mounted projection systems installed in 6 Physical Science Labs. Total Budget Allocation $27,000 including installation and Pixie controls, speakers.

Wireless Carts for Classrooms Project

- Deployment of wireless laptop carts with dual-boot MacBook laptops.
- Replacement of 30 out of warranty wireless Laptops based on 4 year refresh cycle.
- Addition of 5 laptop carts with 20 MacBooks, this will allow us to provide carts in 5 rooms simultaneously to reduce the need for moving students to rarely available free labs. The advantage of using dual-boot MacBooks, along with the ability to be able to use both Mac and PC environment, is the extremely long life of the batteries in the MacBooks, which is something that was an issue with deploying such carts in the past. Total Budget allocation $90,000.

Wireless Expansion and Upgrade Project

- Continuation of the process of upgrading access points to the newer faster N standard and addition of dedicated access points in class rooms and exterior areas to accommodate wireless access for thin clients and mobile devices. Project entails adding 200 access points with N standard access points, taking care of blind spots based on RF analysis. Budget Allocation $ 103,000 for access points, $22,000 for additional Node Licenses and $ 70,000 for cabling/enclosures. Total Budget Allocation $195,000

It is our belief that this plan advances the educational agenda of Kingsborough in a way that respects the views of a wide range of constituencies yet remains faithful to our core mission. To ensure that the projects listed here remain on task, the Tech Fee Committee will meet to assess progress and, where appropriate, recommend any "mid-course corrections" necessitated by changes in technology or circumstances.

The attached budget provides additional detail on the expected expenditures including temp services, contractual services, etc.