KINGSBOROUGH

COMMUNITY COLLEGE

The Student Technology Fee Plan

March 2013

Kingsborough Community College

Student Technology Fee
Advisory Committee
2013/14

VP David Gómez, - Committee Chairperson, VP for Academic Administration
Prof. Edward Martin - Dept. of Business
Prof. Edgar Troudt - Dept. Tourism and Hospitality
Mr. William Correnti - Director of Budget and Financial Planning
Mr. Asif Hussain - Chief Information Officer
Mr. Anthony Imperato - Business Manger
Mr. Michael Klein - Registrar
Ms. Juanita Linares - Deputy Director, Human Resources

Student Representatives
Shiuly Ali
Shari Houston
Robert James
Kumar Ramlakhan
Scott Santiago

		Academic Calendar Year		
		2012/2013	2013/2014	2014/2015
Staff Costs	(List each position, title, salary and fringes)			
	College Assistants (Lab Support)		600,000.00	
	Fringe Benefits		60,000.00	
Sub-Total			660,000.00	
Consulting				
Sub-Total				
Hardware, Networking, Peripherals				
Personal Computers/Servers/L	Quantity			
PCs			300,000.00	
Laptops			90,000.00	
Servers				
Projection Device			20,000.00	
Printers/Scanners				
Printers			12,000.00	
Routers/Hubs/Wiring			142,000.00	
Infrastructure			50,000.00	
Wiring			75,000.00	
Smart Classroom			100,000.00	
Wireless Project			115,000.00	
Sub-Total			904,000.00	
Software				
(Provide product name and estimated cost, if known)				
See Project Narrative			173,000.00	
Sub-Total			173,000.00	
Library Electronic Databases				
			60,000.00	
Sub-Total			60,000.00	
Furniture				
computerization of classrooms			325,000.00	
Sub-Total			325,000.00	
Construction				
Sub-Total				
Faculty Development and Training				
Sub-Total				

Miscellaneous				
Supplies				
paper			25,000.00	
computer			75,000.00	
Sub-Total			100,000.00	
Enterprise Initiatives (Blackboard, Email, Academic Advisement, Etc.)				
Blackboard				
Symantec				
ETI			210,000.00	
Sub-Total			210,000.00	
	TOTAL		2,432,000.00	

Kingsborough Community College
Student Technology Fee
2013-2014

As with every truly historical event, Hurricane Sandy left its indelible mark. Despite the physical devastation wrought by the storm, the campus gained some valuable lessons in the storm's aftermath. First, in evaluating the impact of Sandy on the IT infrastructure, it would appear that the plans and investments made to date were effective. Relocating mission-critical equipment from the basement of the library, rethinking the configuration of infrastructure, planning everything from the location of UPS switches and electrical outlets to the systematic backing up critical files allowed the College to resume normal activities within a week despite being literally at the center of the storm of the century.

As heartening as it was to know that the College's plans were validated, the storm also served to painfully point out where we need to redouble our efforts. Given Kingsborough's geographical location, extremes in weather will always pose a major risk to the delivery of instruction. In the event of another disruption, the ability to stream video, record and transmit model lessons, and direct students to online services becomes as much an educational imperative as it does a technological innovation.

As was pointed out in last year's plan, however, the institution must also continue to maintain its current installation base and provide students and faculty with the hardware and software needed to sustain the teaching and learning process. As faculty continue to develop on-line materials and make greater use of commercially available teaching resources, students become increasingly reliant on technology to access information, communicate with professors, participate in group/cohort projects, conduct research, take exams and submit their work for assessment by faculty.

The growing demands placed on College resources suggest that, while many students report they have access to technology, Kingsborough still comprises a major component of that access. In recent years, the College has more than doubled the laptop loan program, increased the hours in open labs, made all labs available throughout campus when classes are not in session, and converted a number of lecture halls and large classrooms to multipurpose instructional spaces reducing the pressure on labs for instructional purposes. While this appears to be effective, keeping pace with the demand has been daunting.

Another challenge has been to make judicious use of our resources at a time when enrollment has leveled off. Like most of the community colleges of the system, Kingsborough enjoyed unprecedented increases in its overall enrollment following a long period of stable enrollment. As a result, there had been corresponding increases in the Tech Fee budget. Recent trends, however, point to roll backs in enrollment numbers. These decreases have been exacerbated by the storm that severely impacted literally thousands of our students and hundreds among our faculty and staff.

Unfortunately, decreases in enrollment and the concomitant reduction in the budget have not been met by a corresponding decrease in costs. Increasing lab hours, expanding Wi-Fi access,

enhancing instructional services and maintaining our installation base may adversely effect the College's ability to move as aggressively as it has in the past on its goals. That having been said, it is clear that not continuing on the path we have set may be shortsighted and limit the instructional support available to students. In short, it seems that our ability to balance the divergent forces of increasing costs, decreasing resources, emerging technology and existing needs is the challenge at hand for this Committee and this institution.

We believe that the plans that follow will allow us to reposition ourselves to meet the challenges of the future while still addressing the needs of the present. Before proceeding to the 2013-2014 plans, and as part of our responsibility to the College community, it is first necessary to review this past year's accomplishments.

Accomplishments 2012-2013

Augmentation of Workstation Imaging

Academic computers now have a unified image. All computers use the same core operating system enabling labs to be customized. This approach has eliminated hardware-based computer images and moved to software based images. An entire room can be deployed easily, quickly, and with little involvement from the technician. All required information is downloaded from Active Director which has allowed uniformity for students and faculty.

- Deployed new image 4.2.1 which includes new deep freeze and CS6.

Automated software and security updates

With the introduction of Windows 7, we are able to better leverage Active Directory to improve the deployment of software updates 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 have minimized the threat of viruses and worms on the academic network.

Augmentation /Maintenance of Networking Infrastructure Project

The old, out of warranty switches could only accommodate 100 MB while the new switches deliver 1 GB to desktops. The new switches have the ability to connect at 10 GB speeds to the core switch and are capable of being multi homed for business continuity and 24/7 operations.

- **M108 Project** - Upgraded the network switch with Summit X460 model for power redundancy, configured secondary fiber optic connection and successfully tested failover.

- **M221 Project** - Retired the old Cisco 4506 switch, upgraded the old firewall uplink from 100mb to 1GB, configured redundant UPS unit, setup email notifications.

- **M214, M220A, M223 Project** – Consolidated 3 network switches in each room into one Extreme Black Diamond 8810.

- **L103/L102G Project** – Consolidated 3 network switches in one stack, configured secondary fiber optic connection into redundant switch in M224 data closet, successfully tested failover. Aggregated two fiber optic connections for higher throughput.
- **Extreme Switch Firmware Maintenance/Upgrade Project** – Upgraded network switches to XOS 15.1 release for improved performance, support and use of new features.

- **Epicenter/Ridgeline Project** - Upgraded Extreme networks management software for better alert, visibility and improved administration of network switches.

The new switches were deployed in T5, L-102G, F-206.

Blackboard Mobile Project
Blackboard Mobile Central is a comprehensive suite of campus services for students, faculty, administrators, alumni and the broader community on both native and mobile web platforms. It was architected with scalability in mind. Because it is impossible to truly plan for the vast array of devices to come in the future, we have built a central service to house data so that they can be repurposed across all platforms/devices. Ergo, all iPhone®, BlackBerry®, Android® and future mobile operating systems will access the Blackboard Mobile Central application through the same Central Service on the backend. The Kingsborough Mobile App was released for Android and IOS devices in Feb 2013, and more than 2,000 downloads of the App have been made by students, faculty and staff

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. To that end, we have added UPS in the data closets to help sustain network operations during short power outages, deployed a redundant core network switch which will connect all the labs to a switch located at an alternate location, and will provide connectivity to network resources in case the current core network switch fails.

- **UPS Project** – installed and configured UPS units on the academic network, configured email notifications.

Class Capture System
Tegrity was selected as the system of choice for class capture, a number of departments are using this system on a pilot basis.

Computerization of Classrooms Project
In order to meet the growing need for computers in labs and for general instruction, we have embarked on a project to deploy thin client computers with wireless connectivity in classrooms. They are using Citrix for application access. The project also entails changing the furniture in the classroom creating a "multi use" space. We have added 150 plus wireless thin clients and plan on adding an additional 100 before the end of the fiscal year.

- E-309-67 wireless thin clients.
- F-309-67 wireless thin clients.
- T-4212-52 wireless thin clients.
- M-411-99 wireless thin clients.

Digitization of Licensed Media Project
This project will allow the digitization of content in Media Center and will facilitate in-class instruction by serving multiple users, classrooms, and lecture halls with on-demand recordings and live streaming over the school's LAN.

Deployment of Pharos Sign-up workstation reservation system
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. Another feature of the Signup system is a display that shows a student's place in line. Two large screens have been installed in the L100 area so students can see their place in line and their estimated waiting time. This will go a long way to improve customer service and reduce the stress on IT staff and students

Deployment of 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 students to look up their information. KBAM (Kingsborough Account Management) was created in house to address this issue. Students are able to look up their email address, reset their password, access their old email (if they were a student prior to fall of 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. This year, 800 students and faculty used Digication.

Fashion Design Institute Project
- Increased the availability of Fashion Design Software in Open Labs and provided an additional server for the Fashion Design curriculum.

Instructional Software Upgrade Project
- Upgraded Adobe Software to the latest version in all labs.
- Replaced the software in Tourism labs with Sabre for Travel Agents and Opera PMS.
- Upgraded Autocad software to the latest version and procured a subscription to keep the software up-to-date in coming years.
- Deployed Office 2010 in all labs. Software purchased through ETI.

Library Databases and eBooks
- Procuring library databases for various titles.

Print Management
Pharos Uniprint (pay per print) has been deployed to all the open lab areas. The introduction of this system has served to reduce 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. This one copier is part of the

campus remote/wireless printing service. It allows students to print documents to the copier on the first floor from their own computers for a small fee. This service, located at remoteprinting.kingsborough.edu, is accessible from on and off campus through computers running Windows XP or later and Mac OS 10.5 or later operating systems.

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.

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.

- Two HP 600 series printers have been deployed, in M159 and M125
- HP 4015 Printers were deployed in M-109, M-110, M-111, M-114 ,M-118, M-214, M-220A , M-322 , M-223, S-225 and S-214
- One HP 2015 deployed in Accounting Lab M-302.

MAC Graphic Labs

- Replaced 57 MAC systems in T5 Mac Graphics Lab.

M-109

- Deployed 31 Dell OptiPlex 780 computers. Image converted to Windows 7.

M-110

- Deployed 31 Dell OptiPlex 780 computers. Image converted to Windows 7.

M-111

- Image converted to Windows 7.

M-114

- Deployed 31 Dell OptiPlex 790 computers . Image converted to Windows 7.

M-118)

- Image converted to Windows 7.

M-125

- Deployed 31 Dell OptiPlex 790 computers. Image converted to Windows 7.

M-155

- New image created for Tri-boot.

M-159

- Deployed 30 Dell OptiPlex 790 computers. Image converted to Windows 7.

M-200

- Deployed HP 9040 Printer, and upgraded to Windows 7.

M-214

- All computers in the lab upgraded to Windows 7.

M-220A

- All computers in the lab upgraded to Windows 7.

M-223

- All Computers in the lab upgraded to Windows 7.

M-302 Accounting Lab

- Upgraded 9 PC's to OptiPlex 760's.

M-322

- All computers upgraded to Windows 7.

M-350 Fashion Lab

- Deployed 2 new PC's.

S-214 (31 computers total)

- All computers upgraded to Windows 7.

S-225 (19 stations total)

- All computers upgraded to Windows 7.

Chemistry Labs

- S-301 replaced 10 Dell 745's with HP Z210.
- S-303 currently 3 PC's upgraded to 8 HP Z210.
- S-324 currently 10 PC's upgraded to 12 HP Z210.
- S-325 currently 11 PC's upgraded to 12 HP Z210.
- S-314 added 8 HP Z210
- S-335 added 8 HP Z210

Podiums

- Added 3 Podium Computers.
- Podium PC's image switched to Windows7.
- Dell GX 620's replaced with Dell 790's.

Smart Class Room Project/New installs and Replacement

- 3M Projection systems and Smart White Boards Podiums with computers have been deployed in 3 additional class rooms. Replacement of 11 out-of-warranty projection systems.

Smart Labs Project

- Additional ceiling mounted projection systems installed in 3 Science Labs. The installation includes LCD screens to replace TV monitors, Pixie controls, and speakers.

Video Conferencing

Video conferencing solution using Radvision (Avaya) platform was implemented. This solution will provide the ability for faculty and students to interact via video conferencing for both online and hybrid courses. The current solution allows for 20 simultaneous conferences and 600 users.

Wireless Carts for Classrooms Project

- Deployment of wireless laptop carts with dual-boot MacBook laptops.
  In addition, a laptop cart with 20 MacBooks, will allow us to provide carts in 6 rooms simultaneously and reduce the need to move students to overcrowded open labs. The advantage of using dual-boot MacBooks, and using both Mac and PC's, is the long life of the batteries in the MacBooks.

- Added 50 laptops for Wireless Laptop Lending Program.

Wireless Expansion and Upgrade Project

- Continuation of access points upgrade to the newer faster N standard and addition of dedicated access points in class rooms to accommodate wireless access for thin clients.

Addition of 50 access points to expand coverage, reduce blind spots, and increase capacity. In addition to these 50 access points, 10 access points were added as part of the classroom computerization project.

- Wireless access has been expanded to all mobile devices including iPhone, iPads, iPods and Android and Windows based devices.

- Printing from wireless laptops will be implemented on pay as you print basis.

Windows 7 rollout

- Windows 7 has been successfully deployed to all the rooms except science labs. The remaining science labs are projected to be converted in June once we get the Biopacs.

Additional Projects and Enhancements

- Upgraded Pharos to 8.3 which enable printing from any device.

- Decommissioned IC domain and unified all labs (labs.stud.kbcc.cuny.edu) and servers (serve.stud.kbcc.cuny.edu) under one parent domain stud.kbcc.cuny.edu. This improves the management and integration with the KB domain.

- Deployed new version of KBAM web self-service application. The new version enables users to look up printing account balance and reserve a PC in L100 area.

- Deployed new KBAM Helpdesk application for helpdesk staff to create, update and add email accounts.

- Continued server consolidation and reduced the physical server count from 20 to 10.

- Created a disaster manual and automated recovery process.

- Deployed self-hosted video service to migrate from hosted video service with a $2,000 monthly cost savings.

- Deployed pilot Single Sign On service for STUD Domain.

- Migrated from snapstream video on LAN appliance to open source video on LAN appliance at an $18,000 cost saving.

- Deployed System Status site to communicate with the college community regarding any computer issues with on or off campus computer systems.

Projects 2013-2014

Augmentation /Maintenance of Networking Infrastructure Project
As noted last year, the old, out of warranty switches can only accommodate 100 MB and the new switches 1 GB to desktops. The new switches have the ability to connect at 10 GB speeds to the core switch and are capable of being multi-homed for business continuity and 24/7 operations. The switches will be deployed on the academic network in the science labs in S 1st , 2nd and 3rd floors.

Total budget allocation is $40,000.

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 taken care of faculty and students wanting applications on their own PCs, while managing software licensing costs. These applications are uninstalled based on time tokens.

The total Budget allocation is $ 7,000.

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 architected with scalability in mind. Because it is impossible to truly plan for the vast array of devices to come in the future, we have built a Central Service to house data in such a way that can be repurposed across all platforms/devices. In this way iPhone®, BlackBerry®, Android® and forthcoming mobile operating systems will access the Blackboard Mobile Central application through the same Central Service on the backend. The first set of apps was released in January.

Total annual cost is $29,000.

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. We are adding UPS to support network switches in labs. Deployment of a Redundant Core Network Switch which will connect all the labs to a switch located at an alternate location and provide connectivity to network resources in case the current Core Network Switch fails. The cost includes equipment and redundant fiber connectivity to IDF closets.

Total Budget allocation is $82,000.

Class Capture System.
A proof of concept was launched in the last fiscal year to select a class capture system and, after considering various systems, Tegrity was selected as the system of choice for class capture. Currently we have a number of faculty members using this system. We intend to extend this

service to more faculty and use it is as a DR solution so, in case of an emergency, recorded classes can be published for students to use.

Total Budget Allocation is $20,000.

Computerization of Classrooms Project
In order to meet the growing need for computer labs, we have embarked on a project to deploy computers in classrooms. We are planning on adding on at least 350 wireless thin clients before the end of the fiscal year. Total budget allocation for this project including hardware, electrical work, deployment of furniture and construction needed to convert the current lecture style calls rooms for dual purpose rooms and installation is included.

Total budget is $350,000.

Digitization of Licensed Media Project
This project will allow the digitization of media facilitating in-class instruction by serving multiple users, classrooms, and lecture halls with on-demand recordings and live streaming over the school's LAN. This will eliminate the need for cable drops and DVRs in every classroom. By utilizing the familiar interface of a home DVR, users can schedule, search, and clip recordings using our client software with little or no training.

Total cost $7,000.

ePortfolio (Digication) Project
Described above, the College plans to expand this service to include 1,100 students.

Total Budget allocation is $6,000

Instructional Software Upgrade Project

- Upgrade Adobe Software to the latest version in all Labs.Upgrading following Labs to Windows 2007: F206, S101, S103, S114, S125, S135, S226, S237, S214, S301, S302, S303, S304, S324, S325, S333, S346, S347, S348
- Upgrade animation software in MAC graphic labs
- Upgrade Tandberg software in L-102G Language
- Lab Upgrade Virtualization software for academic servers
- Upgrade Culinary Arts software in U-118 and M-246 labs
- Upgrade NetOp software
- Upgrade Deefreeze software

Total budget allocation is $75,000

Library Databases and eBooks

- Procuring Library databases for various titles, and working with Chief Librarian and Provost to support eBooks project.

Total Budget allocation $ 60,000.

Print Management Solution (Pharos) Project

- Support for recently deployed pay-for-print system with additional support for workstation reservations to open Labs, expansion of remote printing capabilities from home and wireless stations.

Total Budget Allocation $11,000.

Replacement of Computers in Labs

- Replace 35 existing Podium Computers.
- Replace 228 computers in the following labs based on 4 year refresh cycle.

LAB	# of Computers
F-206	25
V-202	40
L-705	10
M-125	30
v-201	27
M-302	9
L-300	12
L-102G	40
T-236	35
Total	228

Total Budget allocation for this Project based on current pricing is $300,000.

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 added in 5 additional class rooms. About 25 out-of-warranty projection systems will be replaced.

Total Budget allocation including installation $ 100,000.

Smart Labs Project

- Additional ceiling mounted projection systems will be installed in two physical science labs. Replacement of old out-of-warranty projectors. Project includes installation and pixie controls, speakers, etc.

Total Budget Allocation $20,000

Wireless Carts for Classrooms Project

- Replacement of 48 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 and reduce the need for moving students to crowded labs. Again, the advantage of using dual-boot MacBooks, along with the ability to be able to use both Mac and PC environment, is the 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.

Video Conferencing

The video conferencing solution using Radvision (Avaya) platform will be expanded. This solution will provide the ability for faculty and students to interact via video conferencing for both online and hybrid courses. Our current capacity allows for 20 simultaneous conferences and 600 users. The solution works on all mobile platforms (Android and IOS) Based on usage, we will upgrade the solution to handle 40 simultaneous conferences and 1,200 users.

Total Budget allocation $38,000

Wireless Expansion and Upgrade Project

Continuation of the process of adding access points in classrooms and exterior areas to accommodate wireless access for thin clients and mobile devices. The project entails adding 100 access points. The budget allocation is $ 5,000 for access points, $25,000 for additional Node licenses and $35,000 for cabling/Enclosures.

Total Budget Allocation $115,000

As in past years, it is our belief that this plan reflects the views of the Kingsborough community. The Committee will, of course, meet throughout the year to monitor progress, make adjustments as necessary and work with the various College constituencies to ensure that every effort is made to support students and provide the instructional environment needed for their success.

The budget attached provides additional detail on FY 14 expenditures.