Information Technology at Seton Hall University

Department of Information Technology
Annual Report

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Part I

An Overview of Information Technology at Seton Hall University
An Overview of Information Technology at Seton Hall University

Seton Hall University made a major commitment to Information Technology through the University's 1996 strategic plan, which stated as one of the strategic goals: "to provide a technologically advanced learning environment for our students and faculty." As part of the University's strategic plan, Seton Hall developed a long-range technology plan and budget. The University's technology plan set forth the goal of "establishing a learner-centered, network-centric, mobile computing environment with a wide range of online teaching and learning resources, including a digital library, as the core of our network services". Implementing this bold technology plan has resulted in major awards and recognition for the University, including:

- The 1999 EDUCAUSE Award for Excellence in Campus Networking
- The 2000 EDUCAUSE Award for Systemic Progress in Teaching with Technology
- Seton Hall was ranked as one of the 50 "Most Wired" Universities in the 1999 and 2000 Yahoo! Internet Life surveys of the "most wired" colleges and universities, and as one of the "Most Connected" Campuses in the 2002 and 2003 Forbes surveys.
- Seton Hall served as host campus for the 3rd and 4th annual Conference on Ubiquitous Computing (2000 and 2001) and as the host campus for the 1st and 2nd annual Symposium on Technology Enabled Course Redesign (2004 and 2005).
- Seton Hall hosted the 2006 ThinkTank conference, an event where colleges and universities that offer laptop programs come together to share best practices in both administering laptop programs and supporting innovative teaching methods using technology to enhance student learning.
- In 2006 Seton Hall won Blackboard's “Exemplary Communities of Practice” Award for the University’s implementation of an ePortfolio system to assess student learning outcomes.
- Seton Hall has hosted hundreds of campus visits to see how Information Technology has enabled the transformation of teaching and learning. Campuses visiting Seton Hall have included St. John's University, the University of Hong Kong, the University of North Carolina – Chapel Hill, Villanova, Wake Forest, Wesleyan, and Yale.

Seton Hall’s commitment to using Information Technology to enhance teaching, learning, and the University's business processes continued in the University’s 2003 strategic plan. Some of the specific technology accomplishments from the University’s 2003 strategic plan include: increased effective use of technology to enable the redesign of large enrollment core courses to improve learning outcomes; implementation of an ePortfolio (electronic portfolio) system to improve the evaluation and assessment of student learning; and implementation of a new administrative system to enable redesigning and streamlining the University’s business processes and to enable greater access to institutional data in support of decision making and accountability.
Seton Hall’s Technology Infrastructure and Support Services

Seton Hall’s technology infrastructure and support services have been key elements of the University’s success in using technology to enhance and transform teaching and learning. This would not have been possible without the investments in technology made through the University’s strategic plans and long-range technology budget. The University currently has 98 full time professionals working in IT, with an overall FY’2010 budget (including the University’s Mobile Computing Program Budget) of approximately $19 million (approximately 7% of the University’s overall operating budget). Services include the Teaching, Learning, and Technology Center providing technology support for faculty; a laptop repair shop that is authorized to perform Lenovo, and HP warranty repairs; a Technology Help Desk that provides 24/7 phone support for core instructional technologies; a systems support group that implements and maintains the University’s central systems (e.g. email, file and print services); an application development group that supports the University’s administrative system and develops new technologies to improve process, workflow and the ability of the community to interact with our information systems; and an administrative computing group that provides database administration for the University’s Banner system.

The University has a Cisco gigabit Ethernet campus backbone and a campus wireless network that covers 100% of the campus. The campus has two 100M circuits to the Internet that supports user connectivity to the Internet, connectivity to third party vendors, and inbound connectivity to Seton Hall hosted services. The circuits are redundant in nature to provide backup in the event of an outage to one circuit.

In FY’2010 the University began a major upgrade to the campus network to implement the new 802.11n wireless network standard, which will provide over ten times the speed and capacity of the existing 802.11g network. Phase 1 of this upgrade is currently underway and involves consolidating and upgrading the wired switches to accommodate these higher speeds. Phase 2, the upgrade of all the wireless access points to 802.11n, will be completed next summer (2011). The University currently runs SunGard’s Banner® Unified Digital Campus as its administrative suite of student, financial aid, and finance systems. It is an integrated suite of proven, scalable, enterprise-wide applications on a single database, designed to support self-service faculty, student, and employee transactions, institutional research, and enrollment management. In addition to Banner, major components of the Banner Unified Digital Campus installed at Seton Hall include the Luminis portal (Piratenet) providing a single point of access for key IT services, the Banner Document Management System (BDMS) enabling scanning and electronic storage of paper documents, the Banner Operational Data Store, a data mart that enables end-user access to a variety of Banner reports, and Oracle Identity Management, making the Banner directory the authoritative source for accounts and access for all users. The University has Microsoft Exchange for email and calendaring. The University has Blackboard’s Learning Management, Content Management and Assessment systems to support a variety of academic and administrative activities.

The University runs most services on a state-of-the-art VMWare virtual infrastructure running on IBM Blade Centers and IBM Enterprise servers connected to a NetApp and IBM Storage Area Network (SAN) providing approximately 100 Terabytes of available network storage. At this time nearly all servers have been virtualized, increasing the reliability while reducing the operating costs for the University’s servers. With the upgrade to Banner 8 scheduled for October 2010, all majors IT services will be hosted on virtual servers running on VMWare. A major upgrade of the Storage Area Network (SAN) is underway to consolidate all data center storage onto one SAN with a backup SAN in the secondary data center. This upgrade will be completed in the fall following the upgrade to Banner 8.
The Teaching, Learning, and Technology Center (TLTC)

The TLTC was created in 1997 through the merger of the former academic computing and media centers. One of the primary objectives of the TLTC is to support the third component of the University’s Mobile Computing Program by providing special support to faculty in their use of technology in their teaching. This is done through targeted services as well as internal grant programs administered by the TLTC.

Seton Hall University’s TLTC consists of multiple teams.

- The **Instructional Design Team** provides pedagogically sound support to faculty on the integration of technology into the curriculum. All of the TLTC’s six instructional designers hold master’s degrees in instructional technology or a related field.

- The **Digital Media Team** supports faculty in the creation of digital materials for their courses, such as videos, Web pages, animations, and the like. The TLTC has five full time digital media specialists.

- The **Classroom Support Team** supports the technology used by faculty in the classroom. All eighty general purpose classrooms at Seton Hall University have built-in audio and video projection systems and other technologies. Some of the other equipment that faculty may use includes VCR’s, cameras, and the like.

- The **Computer Training Center (CTC)** provides training to faculty and students in the use of the University’s standard suite of software, including Microsoft Windows, Microsoft Office, Blackboard, Lotus Notes, and the like. The CTC has two full time technology trainers.

- The **Student Technology Assistant (STA) Program** provides specially trained students to assist faculty with their use of instructional technology. The TLTC employs an average of thirty STA’s each semester working on various academic technology projects.

Some of the initiatives administered by the TLTC to promote and support the effective use of technology in teaching and learning include:

- The **Curriculum Development Initiative (CDI)**, now in its eleventh year, provides significant multiyear funding to academic departments able and willing to undertake technology-enabled redesign of required core courses in order to improve student learning. Typical CDI projects involve teams of faculty and technologists, are two to three years in duration, and with an overall project budget of between $30,000 and $75,000. Current CDI projects underway include projects involving undergraduate courses in Business, Freshman Studies, History, Mathematics, Sociology, the Signature courses and Universal Proficiency infusion of the new core curriculum. Most recently a project to encourage faculty to adopt outcomes assessment in their courses, programs and departments in the planning phase for the next academic year.

- **Faculty Innovation Grants (FIG’s)** are small (typically less than $5,000) one year grants to individual faculty to support the use of technology in an aspect of a course they are teaching. In the past three years the TLTC has awarded FIG’s to faculty in Art, Business, Chemistry, Diplomacy, Education, English, Graduate Medical Education, History, Museum Studies, Modern Languages, Music, Nursing, Political Science, and Sociology.
• **Faculty Institutes** are intensive three to four day immersions in the effective use of technology to support teaching and learning. Faculty institutes are typically held twice a year during the summer and winter recesses. For the past two years the TLT Center Summer Institute has expanded to include a series of weekly one day workshops, the TLT Summer Series, throughout the summer to help faculty learn new technologies and make effective use of those technologies in their Fall classes.

• **The Teaching, Learning, and Technology Roundtable (TLTR)** holds regular meetings that include faculty, administrators and technologists. The TLTR serves as a forum for the discussion of the potential benefits and pitfalls of instructional technology, and serves as an advisory committee to instructional technology decision makers.

• **On-Line Learning** initiatives include courses for Seton WorldWide, The College of Arts and Sciences, and the School of Business. Courses were developed following the Quality Matters guidelines.

• **The SHU Mobile** project recognizes that the evolution of mobile technology will enable more opportunities for collaboration, community building and communication, the SHUMobile initiative will extend the pillars of our successful Mobile Computing Program of access, support and curricular integration for these emerging devices. The SHU Mobile project realized increased faculty response to the “call for proposals” and mobile devices were integrated as part of the course curriculum.
Part II

Seton Hall University’s Mobile Computing Program
Seton Hall University’s Mobile Computing Program

Ubiquitous Computing refers to programs aimed at making a computer available to every member of a learning community so that everyone in that community is able to communicate and access learning materials “any time, any place.” One of the most visible aspects of Seton Hall’s technology plan is the University’s Mobile Computing Program, Seton Hall’s version of ubiquitous computing. This innovative academic program provides a Lenovo ThinkPad computer to each undergraduate as part of their tuition and fees. The computers used in this program are replaced every two years, ensuring that students have state-of-the-art mobile computers. More than just a laptop lease program, Mobile Computing provides a range of quality support and network services, including training, support, and incentives to faculty to integrate Information Technology into their courses in order to enhance teaching and learning. The University’s Mobile Computing Program has three mutually reinforcing components.

- **Access:** the University provides each full time undergraduate student a University standard laptop computer as part of their tuition and fees;

- **Services and Support:** the University provides an array of network and support services that enable the laptop computer to be used as an effective communication and learning tool, including a Technology Help Desk (with limited phone support available 24/7), an on-campus laptop repair center (open over sixty hours per week), laptop insurance, a high speed campus network, a campus wireless network, email, the Blackboard Learning Management systems (providing a suite of online tools for course-based communication, discussion, and learning assessment), network file storage (currently over 2GB for each student), and online enrollment services such as online registration, payment, and degree audits.

- **Curricular Integration:** The University provides specific services to faculty to promote and support the effective use of technology to enhance teaching and learning, including the Services of the Teaching, Learning, and Technology (TLT) Center and internal grant programs such as the Curriculum Development Initiative (CDI) and the Faculty Innovation Grant (FIG).

Through implementation of the Mobile Computing Program, Seton Hall has achieved high levels of student and faculty use of technology in their teaching and learning. Nearly all faculty regularly communicate with their students using email and the majority of faculty use Internet resources, such as the Blackboard Learning Management System, to supplement course material. All of the eighty classrooms on the South Orange campus have wireless network access and built-in audio and video projection systems. The University has expanded the use of Tablet PC’s at Seton Hall; at this time all full time faculty on the South Orange campus can elect to use a Tablet PC in place of the traditional laptop and all natural and mathematical science majors are issued a Tablet PC as part of the University’s Mobile Computing Program in order to enhance the learning experience in these majors. In addition all majors in design, graphics, art and advertising are now issued a MAC Power Book to allow those students to utilize the tools they will encounter when entering the job market.
Mobile Computing Program Access Policies

Student Participation Policies:

- Participation in the Mobile Computing Program is a requirement for all full time undergraduate students.
  - The laptops for undergraduate students are replaced at the end of their sophomore year.
  - First time / full time undergraduate students are issued a new laptop at their orientation.
  - Transfer students are issued a laptop appropriate to their class once their transfer credits have been finalized.
  - Students who graduate in four years (or less) are eligible to keep their laptop after graduation. Students who require a fifth year (or beyond) have a choice of either keeping their senior laptop with a reduction in their Mobile Computing Fee or upgrading their computer to the latest model and paying the appropriate buyout if they wish to keep their laptop upon graduation.

- For graduate programs participation in the Mobile Computing Program is determined by the college or program.
  - Currently participation in the Mobile Computing Program is required for all students in GME and Nursing. Participation is optional for graduate students in Business and Education. The fee schedule and replacement schedule is customized for each program depending on the program’s length.

- Students in the Mobile Computing Program receive a University standard laptop computer. This is currently a Lenovo ThinkPad, except that:
  - As part of the Tablet PC Pilot Project, students in the physical, biological, and mathematical sciences receive a Lenovo ThinkPad Tablet PC;
  - As part of the Mac Pilot Project, students in music and graphic arts majors receive an Apple Macintosh Powerbook laptop computer for the junior refresh.
  - Students in the Accelerated Nursing Program at Georgian Court College (GCC) receive a Dell laptop, so that the GCC IT department can repair or replace their laptops.

Faculty Eligibility Policies:

- All full time faculty are eligible to use a University issued laptop computer.
  - For the purposes of this policy, “faculty” includes full time instructors, faculty associates, and academic administrators with direct responsibility for instruction, such as deans, assistant deans, program directors, mentors, and the like.
  - Full time faculty are eligible to replace their University-issued laptop computer every three years. If the need arises for a faculty member to refresh their laptop “early” a request should be made to the Office of the CIO, cost sharing with the department, school/college or faculty member may be required.
  - Faculty have their choice of the University standard laptop computer (the Lenovo ThinkPad) or the University standard Tablet PC (the Lenovo ThinkPad) (faculty teaching in the music and graphic arts programs can elect to receive a Macintosh Powerbook as part of the Mac Pilot Project).
  - The Mobile Computing Program typically issues only one computer per user. The Mobile Computing Program typically does not issue printers, scanners, monitors, or other peripherals to program participants. Faculty with specialized technology needs should work with their department or college to address those specialized needs. Exceptions are reviewed on a case-by-case basis and depend on available resources.

- All part time instructors, including adjunct faculty, graduate assistants, teaching assistants, and research assistants, are eligible to the use of a two year old laptop from the University.
Part III

Seton Hall University’s Teaching, Learning, and Technology Initiatives
The Curriculum Development Initiative (CDI) supports departments in their use of technology to enhance faculty teaching and student learning. Many of the CDI projects focus on Large Course Redesign, the redesign of courses with large enrollment to effectively leverage technology to support teaching and student learning. Planning for the next academic year has focused the CDI initiative on online learning, outcomes assessment and support for the next strategic plan and Presidential priority projects.

**Outcomes Assessment:** Outcomes assessment is an important initiative academically and is a requirement for many accrediting bodies. The TLT Center and Academic Affairs continues to work with departments to create collective assessment instruments to gauge student learning outcomes in Math, Critical Thinking, Information Fluency and Reading and Writing. Collective assessments in all of these competencies were deployed in for AY2009/2010 while work on several more continued, including Modern Languages and English. In addition, the TLT Center has worked with the Core Curriculum committee to pilot proficiency assessments in Oral Communication, Reading & Writing, Information Fluency, and Numeracy.

**On-Line Learning Initiatives 2009-2010**
The TLTC has been supporting online learning at Seton Hall University for over 8 years. In the Fall of 2003 that support expanded to include the development of CAS online courses to allow traditional undergraduates the experience of learning online as well as assist nontraditional students in completing their degree requirement. In 2007 the Quality Matters rubric was adopted to ensure that the development of online courses met a set of criteria based on best practice and research. In addition to CAS courses, the TLTC has supported the Stillman School of Business in their development of online Pre-Qualifying courses as well as support several SetonWorldWide programs.

Over the past year the number of online course and program development initiatives that the TLT Center supports has grown to include corporate training, certificate programs and CORE offerings. In response to this increased demand for development of online courses each member of the Instructional Design team has completed extensive Quality Matters training, course development templates have been constructed and online faculty development opportunities have been developed.

**The Arts and Sciences Online Courses**
The Arts and Sciences Online Courses initiative began in 2002-2003. During the 2009-2010 academic year 11 A&S courses were developed including 4 Core offerings and 5 courses that were redesigned to meet the Quality Matters Rubric for a total of 40 courses that have been developed to date. These projects continued to be funded through a CDI grant.

**Courses Completed:**
BIOL 1101/Introduction to Human Biology, Gerald Ruscigno, Dept. of Biology
CORE 1101/The Journey of Transformation, Peter Reader/Marian Glenn, Core
CORE 2101/Christianity and Culture in Dialogue, Ki Joo Choi/Anthony Scigliano
ENGL 1201/Core English I, Nancy Enright, Dept. of English
ENGL 1202/Core English II, Maura Harrington, Dept. of English
ENGL 2101/Great Books of the Western World I, Nancy Enright, Dept. of English
ENGL 2102/Great Books of the Western World II, Maura Harrington, Dept. of English
HIST 1201/World History I, Nathaniel Knight, Dept. of History
MATH 1101/Statistical Concepts and Methods, Bert Wachsmuth, Dept. of Mathematics
MATH 1203/Statistical Models for Social Sciences, Joan Guetti, Dept. of Mathematics
RELS 1302/Introduction to Catholic Theology, Ines Murzaku, Dept. of Religious Studies
Nonprofit Management Certificate:
The Department of Public and Healthcare Administration is developing a for-credit Nonprofit Management Certificate consisting of 5 courses. The program will launch in the Spring of 2011 and will serve as the foundation for an online Masters in Public Administration.

Courses in Development:
PSMA 6003/Public Policy Process, Analysis and Evaluation, Matthew Hale
PSMA 7311/Foundations of the Nonprofit Sector, Naomi Wish
PSMA 7312/Leadership and Management in Nonprofit Organization, Naomi Wish
PSMA 7313/Resources Development (Fundraising), Stephanie Hauge
PSMA 8313/Nonprofit Legal Issues, Robert Palitto

Stillman School of Business
The Stillman School of Business developed 3 online course offerings during the 2009-2010 academic year for launch in Fall 2010. These courses were selected from a request for proposals and funded through a CDI grant. One additional course is being developed without funding during Summer 2010.

Courses Completed:
BACC 7127/ Enterprise-Wide Accounting Info. Sys II, Viswa Viswanathan, Dept. of Computing and Decision Sciences
BMGT 7526/Gender and Diversity Issues, Paula Alexander, Dept. of Management
BQUA 2812/ Quantitative Decision Making, Penina Orenstein, Dept. of Computing and Decision Sciences

School of Education and Human Services
The School of Education and Human Services is developing an online Certificate in Eligibility in Advanced Standing, an 18 credit Accelerated Teacher Certification Program. Online course development began in the Spring 2010 semester.

Courses in Development:
EDST 6421/Child and Adolescent Development & Diversity, Grace May
EDST 6422/Classroom Curriculum, Planning and Organization, Mary Mueller
EDST 6411/Elementary Math & Science Methods, Mary Mueller /Debra Zinicola
EDST 6412/Secondary Math & Science Methods, Mary Mueller /Debra Zinicola
EDST 6423/Elementary Literacy & Social Studies Methods, Alisa Hindin /Greer Burroughs
EDST 6424/Secondary Literacy & Social Studies Methods, Daniel Katz /Greer Burroughs
EDST 6425/Assessment & Student Learning, Roberta Devlin-Scherer
EDST 6426/Clinical Practice & Seminar, Debra Zinicola & Laura McFadden

Continuing Education and Professional Studies
School of Law
The School of Law has partnered with the Division of Continuing Education and Professional Studies to offer programs targeting the needs of the pharmaceutical industry. The first is an online certificate focusing on Health and Hospital Law. The first course is instructor lead and was completed during the Spring 2010 semester. The second project is a 5 module Pharmaceuticals Sales and Marketing Compliance Training. The modules are self-paced and are being supported by TLT Center staff.

Certificate in Health and Hospital Law

Courses Completed:
HLTH 7550/Graduate Certificate in Health & Hospital Law
Faculty Contacts: Carl Coleman and Helen Cummings

Pharmaceuticals Sales and Marketing Compliance Training

Courses in Development:
Module 1: On-Label Promotion
Faculty contacts: Jessica Kwon and Simon Handler-Hutchinson
Online Master of Arts in Human Resources Development and Training for Law Enforcement Officers

The Master of Arts in HRDT, originally only offered face-to-face courses, is working to expand offerings to include online courses. The TLTC has partnered with the HRDT faculty since the Summer 2009 to design online courses that meet the Quality Matters rubric. Five courses were completed this past Fall 2009 semester and development of the final 2 courses will be completed in Summer 2010.

Courses Completed:
- HRDT 6502 / Adult Learning for Human Resources Development Professional, John Bandura
- ELMP 6667 / Personnel Administration, Domenick Varricchio
- HRDT 6501 / Introduction to Human Resources, Edward Lynskey
- ELMP 6764 / Principles of Public Sector Bargaining, David Paprota
- HRTD 6505 / Performance Improvement Strategies, Richard Cosgrove

Courses in Development:
- ELMP 6765 / Policy Analysis in Administration, Christopher Zimmerman
- ELMP 7100 / Selected Topics in Human Resources Training and Development, Christopher Hines

Nonprofit Sector Resource Institute

The nonprofit Sector Resource Institute currently offers 2 certificate programs that can be obtained by participants attending face-to-face workshops and seminars. During the Fall 2009 semester planning began for the conversion of these two existing programs into online offerings encompassing a total of 18 online courses lasting 2 weeks each in duration. The online course development for both certificate programs is almost complete.

CEPS01234 - NFP Board Leadership Institute Certificate (10 – 2 week courses)
- CEPS 0106 / Corporate – Nonprofit Cultures, David Warshaw
- CEPS 0107 / Strategic Planning, Dale Caldwell
- CEPS 0110 / Policy Governance, Terry Newhardt
- CEPS 0111 / Resource Development, Les Loysen
- CEPS 0113 / Executive Board Meetings, Bette Simmons
- CEPS 0105 / Introduction to the Nonprofit Sector, Barkley Calkins
- CEPS 0108 / Legal and Fiduciary Issues, Robert Pallitto
- CEPS 0109 / Financial Oversight, Ron Wilson
- CEPS 0112 / Strategic Communications, Steve Nicholl
- CEPS 0114 / The Nonprofit Board, Carol McKinney

CEPS0123 - NFP Financial Leadership Certificate (8 – 2 week courses)
- CEPS 0116 Charity Rating Process, Sandra Miniutti
- CEPS 0117 / Financial Decision Making, Joyce Jonat
- CEPS 0121 Compelling Grant Proposals, Dale Caldwell
- CEPS 0115 / Financial Analysis, Barkley Calkins
- CEPS 0118 / Budgeting and Planning, Dan Kearns
- CEPS 0119 / Earned Income, Jill Johnston
- CSPS 0120 / Grantmaking Perspective, Les Loysen
- CEPS 0122 / Operations Management, Audrey Winkler

Online Faculty Development

The TLTC Center launched its first online course focused on the needs of faculty developing and teaching online on April 12, 2010. The Online Faculty Experience consisted of 4 modules spanning 2 weeks. The modules include (1) Introduction to Blackboard and Online Teaching, (2) Designing and Developing Your Online Course, (3) Teaching Your Online Course, and (4) Managing Your Online Course. The course is being facilitated by Maura Herrington, Department of English, who is experienced in online course development and teaching. A second course is being developed for launch in Fall 2010 and will address topics focused on student engagement, collaboration, use of media, copyright and library resources.
SHU Mobile Initiative

SHU Mobile Project Background and History

Seton Hall University is committed to providing a unique and advanced technological environment for students, faculty, administrators and all community members. Recognizing that the evolution of mobile technology will enable more opportunities for collaboration, community building and communication, the SHUMobile initiative will extend the pillars of our successful Mobile Computing Program of access, support and curricular integration for these emerging devices.

To realize this vision the TLT Center has worked with the South Orange faculty to identify appropriate projects in several disciplines that will deepen student learning, provide for innovation in teaching, learning and provide experience with mobile technology used in the field by professionals. The projects listed below will utilize these small form factor devices to encourage collaboration between students, increased time on task, increased communication with faculty and more frequent feedback. Many of the projects will focus on the use of digital storytelling, utilizing the device’s still photography and video functionally, while others will be utilizing collaborative tools that interact with blogs, wikis and ePortfolios to create materials from anywhere at any time.

Academic Projects AY2009/2010

 College of Arts & Sciences, ENVL3050 JA – Water Quality Monitoring and Policy

Michael Taylor conducted an Independent Study during the Summer 2009 semester, using the Nokia E71 for:
• Water quality monitoring along East and West Branch of Rahway River.
• Geo-tagging, route creation, and mapping of sample sites.
• Creation of mobile video tutorials for water sampling protocols which will be connected using an online service to create mobile walking tours of water quality routes.

 College of Arts & Sciences, POLS/ENVL2910 – Research Methods

Three Fall 2009 semester Environmental Sciences courses, taught by Michael Taylor, utilized the Nokia N97 devices for political science data collection (polling, demographics, social trends, etc.).

 College of Arts & Sciences, New Course – Small Device Programming

Bert Wachsmuth developed a new course offered to undergraduate students to gain experience in programming for mobile devices. The course utilized the Android OS (Google Phone) and was offered in the Spring 2010 semester.

 College of Arts & Sciences – Public Sector Leadership

Matt Hale used the Nokia N97 device in his Public Sector Leadership course during the Fall 2009 semester to have student create a video essay on their neighborhood and document the needed improvements. Pairing this technology with Google SketchUp allowed the students to also create those improvements in a virtual format and compare the documented issues to the proposed changes.

 College of Arts & Sciences – Chemistry

John Sowa indicated that student documentation while completing Chemistry labs has been a problem due to the limited workspace on the lab table. The use of either paper or the students' laptop computers has been a problem because of the proximity of water, fire and chemicals. The use of these small devices (Nokia E71) for data gathering (Nokia Data Gathering) and data resources allowed students to document their findings in a more comprehensive and more efficient manner.
College of Arts & Sciences, ENGL 1201 – College English I
The goal of this project led by Melinda Papaccio was to use the Nokia N97 devices to create digital stories as part of the coursework requirement and to be submitted as a final project. Students involved in this project in the Fall 2009 semester used the Nokia N97 multimedia device to capture their digital artifacts (graphics, videos, interviews, story narration, etc.). The mobile devices allowed the digital stories to be more genuine and personal in nature than they had been in the past, boosted the overall quality of the finished products and exposed approximately 60 students in the three English 1201 classes to emerging technology in academia.

School of Business, Center for Leadership Development
The goal of this project led by Jack Shannon and Mike Reuter was to introduce the multiple media and technology available to members of the Seton Hall University community to the incoming group of approximately 15 Freshman Leadership Students. This foundation in the appropriate use of technology for collaboration will serve the incoming students for their degree program at Seton Hall.

School of Business – Ideas and Trends (Juniors)
This project was led by Jack Shannon and Mike Reuter. Students utilized the Nokia devices to be both consumers and creators of content in various forms including Wikis, Blogs, and video sharing via YouTube and similar sites.

College of Education and Human Services, EDST6305 – Production of Instructional Resources II
The students in Joseph Martinelli’s Summer 2009 course were assigned a project that requires the capture of digital artifacts, both audio and video, on their own outside of scheduled class hours using the Nokia N95 multimedia phone. Captured artifacts were used in a student designed technology rich lesson, which was presented to the class via Smartboard. The lesson was designed for interactivity using the Notebook 10 software, which was available both in the lab and to the students for download from SMART Technologies. Students were taught how to manipulate, and enhance digital images captured via the Nokia N95 Nokia using MS Expression Design software.

College of Education and Human Services – Production of Instructional Resources I
The students in Joseph Martinelli’s Fall 2009 course were assigned a project that requires the capture of digital artifacts, both audio and video, on their own outside of scheduled class hours using the Nokia N95 multimedia phone. Captured artifacts were used in a student designed technology rich lesson, which was presented to the class via Smartboard. The lesson was designed for interactivity using the Notebook 10 software, which was available both in the lab and to the students for download from SMART Technologies. Students were taught how to manipulate, and enhance digital images captured via the Nokia N97 using MS Expression Design software.

College of Education and Human Services – Field Evaluators
The goal of this project was to assign Nokia N97s to four faculty members that conduct evaluations on the student teachers in the field. The project was coordinated by Grace May and Debbie Strazza and utilized the NDG tool to pilot the collection of this data electronically.

School of Health and Medical Sciences, Research Project - Gait and Sports in Adolescents
The goal of this project led by Doreen Stiskal, Chair, Department of Physical Therapy, was to use the mobile devices to record data for a research project involving gait and sports in adolescents. The mobile devices were used to collect data through information gathering and video capturing on-site at athletic events. A team of graduate students assisted in the data collection and analysis process.

Freshman Studies – Voices @ the Hall
The goal of this project led by Liz Hoehn was for Peer Advisors, Mentors and students to utilize the Nokia N97s to record freshman reflections on their experiences and conduct interviews, similar to those
of the national StoryCorps Project. Students included these audio/video clips in their Freshman ePortfolios and a local website called Voices @ the Hall was created to showcase the project: 
http://blogs.shu.edu/projects/voices/

- College of Education and Human Services, EDST2003 AA and AB – Instructional Theory and Practice
  In the Spring 2010 semester, Roberta Devlin-Scherer used the N97s to facilitate students’ self evaluation of short, varied presentations to teach content in their subject area to middle, high, and English as Second Language students. Students regularly shot video of their presentations in class, for homework, and at field sites. These were reviewed in small groups, discussed in a blog and samples were put together to explain each candidate’s journey toward more effective teaching this semester.

- College of Arts & Sciences – Chemistry – Electronic Flash Cards
  This project, led by John Sowa, examines the use of mobile devices (multiple platforms including Nokia E71, RIM Blackberry, Apple iPhone, Android devices and laptop computers) to create and review electronic flash cards that examine nomenclature of organic chemistry and organic reactions. The idea was to create a series of flash cards that students would readily be able to access on a mobile device through a web based platform. They will be able to browse and scan through the electronic flash cards at their leisure to help them learn these difficult aspects of nomenclature and reactions. An initial set of five flashcards have been constructed for delivery via the web (http://courses.shu.edu/artsci/CHEM/chem2315/Flashcards/index.htm).

- College of Nursing, NULD 6206AA – Nursing Care of Adults with Acute Health Problems
  Using the E71 Smartphones and the Nokia Data Gathering software, students in MaryCarol Rossignol’s Spring 2010 course completed a weekly survey concerning their hospital experience. In class they analyzed the data to build concept maps, hierarchical graphic organizers that diagram the important health problems, clinical evidence for the problems, and relationships among problems.

- Housing and Residence Life
  Project goals, led by Jas Verem, utilizing Nokia N97s:
  1. Continue building our digital database
  2. Publish the two maps created with Village Liaisons
  3. Connect SHUFly to the above map via Nokia Device by using Google Latitude
  4. Create “video tour” of our residential facilities
  5. Create a “video interview database” of our student leaders and their experiences in HRL.
  6. Explore the use of Nokia phones for paperless use. We would like to use Nokia phones to help us to some paper based process via the phone. We are looking at doing our Health and Safety Reports through the phone. We would require the use of Adobe function/license on the phone.
  7. Explore the use of Skype and AIM as a communication tool between resident students and RAs on duty.

- Center for Community Research and Engagement
  The goals of this project (Spring–Summer 2010) are to create a video and audio archive of best practices in the field of service learning, particularly as it relates to interactions between University students and public schools, non-profit organizations, and after school programs. This footage will then be used for trainings, research, conference presentations, video creation for PR, and grant writing.

  Additionally, a goal of the partnership with Nokia is to provide small-scale training to our neighboring program participants, in most cases young children, on how to use some of the suitable applications on the mobile devices. The expectations are to significantly enhance the mentoring and tutoring relationship between our service learning students and the youngsters at various sites through the use of Nokia smartphone applications. This may lead to new innovative ways to maximize the impact of the program as each service learning student and young participant become-collaborators in the initiative. This project is led by Roseanne Mirabella.
College of Arts & Sciences, POLS2290AA – Topics in US Politics
The goal of this course taught by Michael Taylor and Jo-Renee Formicola was for students to use the Nokia E71, N97 or their own smartphones for:
- Course and team blogs (Wordpress)
- Course communication (Skype, Twitter)
- Course collaboration/social networking (Ning, Google Docs, Google Wave, Wiki, SL)
- Course research (RSS, Delicious)

The Center for Mobile Research and Social Change - Nokia Data Gathering
Together with IT Services the TLT Center is supporting the use of Nokia’s Data Gathering tool, a survey tool that allows for the creation of survey instruments, pushed to a mobile device for realtime data collection in the field. While the data is being collected in the field, decisions on the data, changes to the instrument and other action pertinent to the research being conducted can be taken in a much more relevant time frame than in the typical manner in which we collect data.

Partnering with Nokia, the College of Arts and Sciences has created The Center for Mobile Research and Social Change which will become the sole North American training site for the Nokia product. The director of the Center is Dr. Michael Taylor, Assistant Professor of Political Science and Environmental Studies. The Center website is: http://blogs.shu.edu/projects/cmrsc/

The main objective of this project was to design a comprehensive training plan and supporting materials for the Nokia Data Gathering system. The training flow was organized into 11 Modules and development of the curriculum and supporting materials was completed in Spring 2010:

Module 1 – Introduction to NDG
Module 2 – Survey Collection Tool Distribution and Overview
Module 3 – Entering Data into a Survey and First Look at Viewing Results
Module 4 – Creating a Survey
Module 5 – Design Your Own Survey
Module 6 – Using the NDG Server
Module 7 – GPS and Mapping
Module 8 – Installing NDG Client on Device
Module 9 – Installing NDG Survey Editor on Desktop/Laptop
Module 10 – Installing the NDG Server
Module 11 – Research Methods

In the Fall of 2010 the SHU Mobile team launched the University’s first mobile website http://m.shu.edu and two device specific applications for the iPhone and the Blackberry, to provide access to University events, news, the course catalog, a map of the campus, video and still images of campus events, the address book of faculty and employees and an area that focuses on University Athletics. Work on the application continues and aims to allow students and community members to access academic data and course work through the Blackboard Learning System, Banner and even enroll in a course using their mobile phone.

Students participating in the pilot projects were asked to participate in a survey in order to assess the effectiveness of the projects. As expected, the results of the survey indicate that students agree that mobile technology is an integral part of a university education and can enhance teaching and learning, though at a lower level of agreement than faculty responses to a similar set of questions. The student responses indicated a strong perception that collaboration with peers using mobile devices, and general experience with mobile technology in their course work will better prepare them for the workforce upon graduation. The mobile projects also help students take control of their assignments and time management and help enforce critical thinking concepts necessary for success both in their course of study and beyond.
The use of highly mobile devices in higher education is still emergent and the high level of agreement from our students that the use of this technology improves their learning, experiences and increase preparation for the workforce enforces the University’s strategy to embrace this technology further.

Other Instructional Technology Initiatives

Virtual Worlds

Virtual Worlds are 3D online communities which support various forms of interaction. Social presence is supported through the use of avatars, graphical representations of participants, who communicate via text, gestures, and voice chat. Participants are also able to interact with the environment through the use and creation of various objects, many which are able to give immediate feedback and collect information from users. This engaging and highly social environment creates an immersive experience for users and provides educators with a new platform to explore teaching and learning.

Due to limitations of space, distance and complexity, it is not always possible to bring real-world experiences into the college classroom. Field trips and traditional student internships can offer students authentic learning contexts, however these are often short in duration or occur late in the course of a student’s educational career. In these experiences, students often have little opportunity to develop team building skills and creative problem solving. Multi-user, persistent virtual environments (MUVE) have shown promise for fostering community and supporting situated learning because they can provide immersive, collaborative, simulations similar to those found in real world contexts.

Virtual Marsh Project - This project involved the development a virtual case-based learning environment based on the topic of non-point source pollution (NPS). Unlike pollution easily identified from industrial, chemical and sewage treatment plants, non-point source pollution comes from many diffuse sources. In the case of the Salt Marsh Dynamics, a storm event has occurred in the area causing the storm sewers to overflow into the salt marsh. Through interviews with virtual characters and interacting with the environment itself, students gather clues and information to help them formulate a hypothesis to explain recent happenings and formulate possible solutions to bring the environment back to a more natural balance.

Emergency Preparedness Training - This is a collaborative initiative to create a virtual simulation exercise to develop key emergency management competencies for students in a Master of Healthcare Administration program. The exercise designed offers a previously unavailable virtual counterpart to the tabletop exercises traditionally used to teach emergency preparedness skills, providing online students with important opportunities for hands-on experience and interaction. The exercise is delivered under the guidance of Dr. Anne Hewitt during the mid-residency required of online students. This project has resulted in a wide variety of attention from other institutions of higher education and the press with two proposals for book chapters accepted.

Engaging the Learning of Chinese Language and Culture in Second Life - This semester Dr. Chen has embarked on incorporating the virtual world Second Life into two sections of Introductory Chinese I (CHIN 1102). Dr. Chen is using the Second Life School on Chinese Island, created by the Confucius Institute at Michigan State University.
Along with face-to-face instruction, students will engage with their peers in the virtual world Second Life to learn about and practice the Chinese language and culture. 30 Students in this course have created virtual representations of themselves in the form of avatars and will navigate their way through the Second Life Chinese School, built by the Confucius Institute at Michigan State University. Using the resources provided by the Second Life Chinese School, 8 learning tasks were designed to accompany the teaching throughout the semester. Students are required to complete these 8 tasks individually and collectively. By exploring the learning activities, some of which are built into the school, students will acquire basic concepts and elements of Chinese cultures. They will also engage in conversation using the voice chat feature of Second Life through a number of assignments outlined in the course syllabus. The voice chat will be recorded and submitted to the professor for an assessment of their proficiency in conversational Chinese.

Dr. Chen presented her virtual worlds project at Yale University for the Northeast Association for Language Learning Technology (NEALLT) and the New England Regional Association for Language Learning conference on October 31st.

Self-Paced Instruction
The TLT Center has been involved with a number of self-paced course development initiatives to deliver a variety of instruction to the community. These projects include the Employee Technology Skills Course, Off-Campus Living Tutorial, and the Online Faculty Experience. The Employee Technology Skills course was developed to deliver targeted technical training to Seton Hall employees. While similar to the Student Technology Skills courses, this version includes additional interactive opportunities through quiz branching and case scenarios, audio narration to highlight text and images on the screen, and videos to highlight important topics including security of personal and work data. The Off-Campus Living Tutorial, a partnership between the TLT Center and the Office of Community Development, is an online tutorial for students who live off-campus that provides information about renting, local ordinances, South Orange resources, and other relevant information for living off-campus. Finally, the Online Faculty Experience course was developed to support faculty designing and facilitating online courses. A series of self-paced modules serve as the foundation for this instructor-led course but can be used as standalone tutorials.

Learning Management Systems
In an effort to better support programs that utilize the Blackboard Learning System the TLT Center has acquired two additional products that extend services to the community. GoSignMeUp is currently being used to support the course catalog and online payment mechanism for students enrolling in courses being offered through the Division of Continuing Education and Professional Studies. Once a student submits payment, GoSignMeUp will create a student account and enroll them in the appropriate Blackboard course. Starfish, a retention solution tool, is currently being piloted with the Seton Summer Scholars and Educational Opportunity Programs. This new tool provides the Seton Hall community with the resources to give students more immediate and detailed support that may enhance their academic career.

Project Sophia (Sakai Open Source LMS) is a community source software development project founded by the University of Michigan, Indiana University, MIT, Stanford, the uPortal Consortium, and the Open Knowledge Initiative (OKI) in 2004. There is currently over 100 institutions and 200,000 users that are utilizing this collaborative learning environment (CLE). Sakai, similar to Blackboard’s course management system, offers tools that support higher education in teaching and learning, portfolio development and group collaboration. Because Sakai is an open-source product
developed by educators for education, Sakai provides an alternative platform for learning and collaboration. Seton Hall University continues to explore Sakai as a learning management system. In an effort to expand its educational potential the Sakai portfolio tool is currently being developed with a pilot scheduled to launch in the Fall 2010 semester. Working with vendors, the TLT Center staff is customizing the portfolio interface to meet the needs the Freshman Studies pilot group.
Faculty Development in Instructional Technology
As a part of the TLT Center mission we spend a significant amount of time on the training and development of the University community both on the use of information technology tools and the best practices of IT use in teaching and learning.

In the AY 2009/2010 a wide variety of topics and formats were offered to the faculty on how to use technology available to the University community to improve teaching and learning. Workshop formats include a mix of hands-on experiences, faculty showcases, demonstrations and discussion. Topics range from mobile learning, web 2.0 tools, survey research, multimedia integration and introductory through advanced use of Blackboard. In addition to in person training events, real-time web ex sessions, online self-paced tutorials, and online instructor led courses were developed and offered.

July 2009
• Summer Series: Web 2.0 Tools for Digital Storytelling
• Summer Series: Creating Effective Posters and Presentations
• Summer Series: Utilizing Technology to Assess Student Learning
• Summer Series: Electronic Survey Research (2 day event)

August 2009
• Summer Series: DyKnow Collaboration Software
• Summer Series: What’s New in Blackboard
• Blackboard 9: Blackboard 9 Overview (offered 3 times)

September 2009
• Blackboard 9: Getting Started with Blackboard
• Blackboard 9: Advanced Blackboard
• Blackboard 9: Blackboard Assessment

The second milestone series of events begin at the start of the fall semester and continues through the first few weeks of the new academic year. The intent of these workshops are to help faculty gear up for the start of the new semester and tackle practical problems they may experience and apply specific technology to overcome those obstacles.
• Bootcamp: Twitter this, Twitter that, What’s it all About?
• Bootcamp: Make Your Lectures Available 24/7
• Bootcamp: Manage Your Email
• Bootcamp: Using Rubrics to Score and Grade Individual and Peer Assessment
• Bootcamp: Collaborative Learning and Journaling Using Blackboard Blogs
• Bootcamp: Utilizing RSS as a Virtual Assistant
• Bootcamp: Tablet PC’s and DyKnow
• Bootcamp: Creating Measureable Learning Objectives
• Bootcamp: Similarities and Differences between teaching Face-to-Face and Teaching Online
• Bootcamp: Mobile Devices for Teaching and Learning
• Bootcamp: Blackboard Essentials
• Bootcamp: Blackboard Assessment
Other workshops offered throughout the year include:

**October 2009**
- Echo 360 Lunch & Learn Presentation
- RSS Day: RSS & Google Alternatives as a Virtual Research Assistant
- Online Teaching Boot Camp: Face-to-Face vs. Online Teaching
- Online Teaching Boot Camp: Creating Measureable Learning Objectives
- Online Teaching Boot Camp Boot Camp: Academic Dishonesty, Cheating & Plagiarism
- Online Teaching Boot Camp Boot Camp: Grading Policy & Rubrics
- Online Teaching Boot Camp: Blackboard 9 Basics
- Web 2.0 Workshop

**November 2009**
- Facebook Profiles vs. Fan Pages: Separate your public network from your personal network
- Twitter: What do so many people have to say?
- Movable Type: How your blog sets your online presence apart from the rest
- Mash it Up! Make Facebook, Twitter and Movable Type work together for you

**December 2009**
- DyKnow

**January 2010**
- Winter Workshop: Defining Collaboration and Technologies to Support It
- Winter Workshop: Technologies to Support Collaboration (Choosing the right tool)

**February 2010**
- Peer & Self Assessment in Blackboard
- Blackboard Collaboration Tools
- Website Design
- Help Organize Your Life with OneNote
- Introduction to Digital Images
- Getting Started with Blackboard
- Blackboard for Teaching Assistants

**March 2010**
- Facebook Profiles vs Fan Pages
- Moveable Type: How your blog sets your online presence
- Twitter: What do so many people have to say?

**April 2010**
- Facebook Profiles vs Fan Pages
- Moveable Type: How your blog sets your online presence
- Twitter: What do so many people have to say?
- Blackboard: Using the Safe Assign Feature
- Make Your Professional Presentations More Professional

**May 2010**
- Waypoint
- Presentations: Beyond the Bullets
- Summer Series: Create an Active Classroom through Technology

**June 2010**
- Summer Series: Immerse Your Learners in Virtual Worlds
- Stand Out in a Crowd – Creating Effective Presentation
Part IV

Teaching, Learning, and Technology Roundtable
Teaching, Learning & Technology Roundtable

Established in 1995, the Teaching, Learning and Technology Roundtable is composed of representatives from academic and administrative areas of the University. Sponsored by the Office of the Provost and the Department of Information Technology, the Teaching, Learning & Technology Roundtable (TLTR) is a consortium of faculty, administrators and students who, on behalf of the University, meet and discuss the interests of enlightened use of technology for teaching and learning. The Roundtable is comprised of action teams (subcommittees) which meet regularly to discuss institutional issues related to teaching, learning, and technology. The TLT Roundtable makes recommendations in support of the University’s Strategic Plan as outlined by stakeholders such as the Faculty Senate, Academic Affairs, Student Affairs, Division of Finance & Technology, and other key organizations or groups.

The Provost's Charge

On behalf of the University, and in the interests of enlightened use of technology for teaching and learning, we place before the Seton Hall University Teaching, Learning and Technology Roundtable the following charge:

- Serve as a forum and meeting place for discussion of institutional issues related to teaching, learning, and technology
- Create action teams to achieve essential short term goals deemed necessary by the membership of the TLTR, and by their constituencies, advancing to the cabinet recommendations as they emerge from these teams
- Provide a forum for discussion and recommendations to enhance the five-year technology plan through representative participation by various stakeholders such as the Faculty Senate, Academic Affairs, Student Affairs, Division of Technology, and other key organizations or groups as needed
- Communicate regularly with all segments of the campus on the TLTR's progress and process
- Stay informed of national trends in technology integration in higher education and communicate these trends to the University community
- Submit a year-end report with general recommendations, along with a summary of action team recommendations that may have been presented during the year
- Prepare for the re-constitution of the TLTR in the following academic year

TLTR Steering Committee

The TLTR is guided by a steering committee to set an agenda for the academic year and to define the action teams and their charge. It is jointly chaired by the Chief Information Officer (CIO) and an appointed faculty member. The steering committee for 2008/09 was:

Stephen Landry, CIO & TLTR Co-chair
Mary Balkun, Assoc. Prof English & TLTR Co-chair
Greg Burton, Associate Provost
Joseph Marbach, Dean, College of Arts & Sciences
Paul Fisher, Director, TLT Center
Lysa Martinelli, Project Manager, TLTC
Leigh Onimus, Assoc. Dean, School of Business
Christine Mallon, SGA Representative
Chrysanthy Grieco, Dean, University Libraries
David Middleton, Asst VP, Fin. & Tech.
King Mott, Chair, Faculty Senate
Bert Wachsmuth, Assoc Prof & Chair Faculty Senate IT Committee
Joseph DePierro, Dean, College of Education & Human Services
TLTR Subcommittees and Membership

Whenever possible, an action team was co-chaired by one faculty member and one administrator. A member of the Teaching, Learning and Technology Center (TLTC) was assigned to each action team to facilitate the flow of information and to attempt to ensure consistency. The 2008/09 action teams were defined as follows:

**Best Practices and Events**

**Chairs:** Kelly Shea & Lysa Martinelli  
**Objective:** Identify and schedule “best practices” showcases and other events in order to provide opportunities for discussion and demonstration of institutional issues relating to teaching and learning. If possible, highlight issues of environmental sustainability.  
**Accomplishments:** This committee held six community events to showcase how SHU faculty use technology in the classroom and hosted the annual faculty and student copyright events to keep the University in compliance with the TEACH Act and the DMCA.

**Digital Sustainability:**

**Chairs:** Richard Stern & Michael Taylor  
**Objective:** Investigate technology tools, green initiatives/sustainability and paperless classroom.  
**Accomplishments:** This committee was successful in working with the SGA to implement, manage and communicate the new printing limits placed on students to address the wasteful use of paper in the University Library and public computer facilities.

**Emerging Technologies:**

**Chairs:** Bert Wachsmuth, Abe Zakhem & Sharon Favaro  
**Objective:** Identify new and emerging technologies and investigate their usefulness in teaching and research.  
**Accomplishments:** This committee was successful in working with IT and the Honors Program to pilot tablet computers for all Honors students, enabling them to utilize these form factor computers in the classroom.

**User Support Committee:**

**Chairs:** Anne Pummfrey & Paul Fisher  
**Objective:** Investigate the impact on and potential usefulness for teaching and learning of mobility devices such as cell phones and evaluate potentially useful content for such devices.  
**Accomplishments:** This committee was successful in working with faculty to determine common problems with the new email system and to address patterns of problems that were going “under-reported”.
Part V

Information Technology Services
UNIVERSITY IT SERVICES:

Summer 2009

In response to the University’s budget situation, cut IT budget by $1.3 million from the previous fiscal year, including the elimination of eleven (11) open positions. Completed migration of all users from Lotus Notes email to Microsoft Exchange email. All students and most faculty, staff, and administrators were migrated in spring of 2009, but the final migrations to the new email system took place over the summer. Implemented ArchiveOne as an enhancement to MS Exchange email, allowing automatic archiving of users’ older email to an archive server, enabling seamless integration of users’ current and archive email and moving older email off the high speed disk array onto less expensive storage.

Went live with Oracle Identity Management (OIM), including Sungard’s Banner module to feed OIM, enabling real time account generation for incoming students. Seton Hall University co-developed the Banner OIM module with Sungard and was the first Banner campus to “go live” with Sungard’s Banner OIM module.

In collaboration with Enrollment Services, went live with CORE Business Office, developing an enhancement to Banner Self Service enabling easier credit card payments for students, including showing estimated financial aid on students’ online bills.

In collaboration with Enrollment Services, developed modification to Banner Self Service enabling former students with outstanding accounts to pay online through Banner.

In collaboration with Human Resources and Payroll, went live with Kronos for online time entry for employees.

Launched SHUMobile app, providing a basic set of campus services to users’ via their “smart” phones. Services in the first phase included campus maps, campus phone directory, campus and athletics news, an events calendar, and an online course catalog. Services are available on most Web-capable cell phones, but device specific applications are available for the iPhone and Blackberry.

Migrated the Blackboard Learning System (LS) from Version 8 to Version 9. This is a major redesign of the Blackboard LS. Seton Hall University faculty participated in the beta testing of Blackboard LS 9 in spring 2008. The TLT Center had a testing / training instance of Blackboard LS 9 beginning summer 208, and training and support for Blackboard LS 9 were provided over the 2008-09 academic year in preparation for this migration.

In collaboration with Academic affairs, upgraded the computers in the Communications Digital Media Lab and in the Writing Center. Upgraded the printers in the Information Commons located in the University Library.

Created Law School roles in PirateNet and launched a PitrateNet Communications Central portlet for the Law School.
Started migration of all standalone servers in the data center to VMWare. Server virtualization will consolidate over sixty physical servers onto four VMWare servers in phase one. With the upgrade of Banner in FY’2010, all major IT services will be virtualized, providing easier management and increased reliability.

Created Banner 8 test environment on VMWare. Performed first test migration of Banner 7 data to Banner 8. The final conversion to Banner 8, originally scheduled for March 2010, has been rescheduled to October 2010 at the request of Enrollment Services.

Added outdoor wireless access points to ensure most of the campus, including outdoor areas, had wireless connectivity. This was helpful in enabling wireless “roaming” for students and employees who are moving between buildings with wireless devices (e.g., wireless Blackberries, iPhones, and other smart phones).

In collaboration with the University Library, upgraded the EZProxy server enabling off-campus access to library databases.

Migrated all faculty Web pages from Microsoft FrontPage to MS Expressions. Worked individually with faculty who needed changes to their Web site to enable this move. Microsoft FrontPage was end of life and facing de-support from Microsoft.

In collaboration with the University Sustainability Committee and Faculty senate, implemented a print quota for the public computer labs in order to reduce paper consumption. Students receive 400 pages of free printing per semester, after which they pay a fee of $0.5 per page. The Faculty Senate passed a resolution calling upon faculty to use electronic rather than paper communication in their classes whenever practical.

During annual maintenance window, conducted successful failover tests for redundant servers in the data center and President’s Hall (Web, email, Banner, Luminis, DNS/DHCP, etc.) and performed successful backup and restore of the Banner production environment.

Decommissioned the old Novell servers, saving the annual maintenance for Novell for FY’2010. Campus file and print services were migrated to Microsoft during spring 2009.

Started review and revisions of the IT Security and IT Appropriate Use policies based on request from Academic affairs and recommendation of the University’s external auditor.

Fall 2009

Decommissioned the old student email servers. Student email is now a cloud based service provided through Microsoft.

Moved campus telephone directory information into Microsoft Active Directory, providing members of the campus community with access to campus phone directory information within the Microsoft Outlook email client.

Implemented new events calendar as part of the Seton Hall University Web page, enabling departments to more easily promote their activities and events on the Web.
Issued a Request for Proposals for Mobile Computing 2010. Received complete proposals from HP and Lenovo.

In response to a recommendation by the external auditor, implemented Dual Approval of Banner scripts and modifications, requiring the functional team leader’s management team to approve any modifications they request to the Banner production system.

Completed migration into AppWorx of fifteen “recurring scripts” requested periodically by Enrollment Services, enabling Enrollment Services to run these scripts themselves without the need for IT support.

In collaboration with University Advancement, completed migration of all active University Web sites from Microsoft Frontpage to the CommonSpot Web Content Management System.

Implemented upgrades to the Banner administrative system to apply 2010 tax and financial aid tables.

In collaboration with Procurement, implemented several upgrades to the operating environments for the new Canon multifunction copiers/printers/scanners/fax machines, enabling users to take advantage of several new features of these multifunction machines, such as the ability to scan a document and email it to a recipient.

Spring 2010

Began preparation of all Banner systems to Banner 8. Successfully installed all the add-on systems (Banner Document Management System, Banner Operational Data Store, Adirondack Housing Module, AppWorx job scheduling system, Kronos time entry module, etc.) on the Banner 8 test system. Conducted first full test migration of Banner 8 with Enrollment Services, Finance, and HR.

Went live with a password reset tool based on Oracle Identity Management (OIM), enabling users to set up a series of challenge questions (mother’s maiden name, father’s middle name, name of first pet, etc.) to allow users to reset their own passwords.

Re-implemented password expirations for users. Prior to 2005 passwords expired every 90 days, but password expirations had been suspended during the Banner implementation due to the profusion of systems. Re-enabling password expiration was a recommendation of the external auditor. With the implementation of Microsoft Active Directory and single sign-on in spring 2009, and with the password self service reset now available, password expirations were re-introduced. Currently faculty and student passwords expire after 180 days, staff and administrator passwords after 90 days.

In collaboration with Human Resources, implemented a modification to Banner Self Service to allow employees to view their Employee Compensation Statements as a PDF (this replaced the mailings that were done last year).

In collaboration with Enrollment Services, updated Pirate Adventure, the accepted student portal based on the Banner Luminis platform.
In collaboration with Enrollment Services, modified Banner Self Service to (a) make viewing and navigating the University course catalog easier for students, and (b) add new features, such as the online health waiver form.

As part of Mobile Computing Program’s Sophomore Refresh, upgraded over 900 sophomore students to Lenovo ThinkPad T510 laptops running the Microsoft Windows 7 operating system. Began upgrading laptops for faculty whose computers are three years old.

Began desktop replacement project, replacing ageing desktop computers with used but serviceable laptop computers from the Mobile Computing Program, as first phase to standardize the University on Windows 7. Windows 7 provides additional support tools that will enable PC Support Services to more efficiently service campus computers; moreover, the bulk of campus desktops are Windows XP computers nearing end of life. Began pilot of the laptops in the University Library and Enrollment Services.

Began major upgrade of the campus wireless network to 802.11n, which will provide approximately ten times the speed and capacity of the existing wireless network. The first phase of the project is to consolidate and upgrade the wired switches to accommodate the higher speed of the new access points. This will be completed in summer 2010. The upgrade of the wireless access points will be done in summer 2011.

In collaboration with Continuing Education and Professional Studies, implemented GoSignMeUp, an online storefront enabling prospective customers to purchase and register for noncredit continuing education classes.

Completed penetration test by an outside contractor of the campus network and critical servers to ensure adequate security for campus IT systems.

Implemented secondary data center in McNulty Hall and fiber link between Corrigan Hall and McNulty Hall, providing two independent paths through campus from the Internet to the data center. Moved older virtual tape library from Corrigan to McNulty Hall to provide additional online backups for disaster recovery.

Distributed approximately 1,170 laptop computers to incoming freshmen during the three orientation sessions in June.

Enhanced the SHUMobile application by deploying an Andoid application. In addition to the generic mobile page (m.shu.edu) available on all Internet capable cell phones, the University now has device specific applications for the Android, Blackberry, and iPhone.

Implemented new operating environment (servers, virtual private network, etc.) for Student Affairs for their implementation of Linel (the new security and door access system), Bosscars (the new parking system), and the new version of the Blackboard Commerce system (for vending and meal plans).
University Web Site:

The University has continued the redesign of its web site to make the University’s web site easier to navigate for users and easier for the University to manage. During the time period July 2009 – June 2010 the University’s website has seen over three and one half million visitors.

At the same time several major unit websites and projects were launched and implemented:

- the Division of Continuing Education and Professional Studies website was launched with integration in the DCEPS registration system GoSignMeUp;
- a website to communicate University polices was created and launched;
- the Office of International Programs website was redesigned to support the ongoing internationalization project;
- the Human Resource website was redesigned to better support employee needs at the University;
- the University Library website was redesigned and transitioned to CommonSpot
- the College of Nursing website was redesigned and transitioned to CommonSpot
- the School of Theology website was redesigned and transitioned to CommonSpot
- the Presidential Transition website was created and launched to support communications to the University community about the search in progress.
- a replacement to the Lotus Notes calendar of events application was created in CommonSpot technology and allows for categorical views of events by school/college, type of event or keyword.
- Faculty profiles has been recreated in the CommonSpot architecture to allow each and every full-time faculty member at the University to have a public web presence with basic directory information. Faculty in the departments of History and the School of Health and Medical Sciences has submitted additional information to highlight their academic careers, scholarship and research.
- Paperthin, the vendor who supports our CommonSpot web environment was contracted to complete a “health-check” for the University’s web Content Management System. This is an annual preventive maintenance to ensure the web content system is tuned for maximum performance. The check uncovered some anomalies which are currently being diagnosed by Paperthin’s engineering department.

Continued improvement of the CommonSpot technology and templates to support the needs of Public Relations and the schools and colleges in promotions and landing pages has been successful to create flexibility of incorporating multimedia materials and the deeper integration with social media tools like Facebook and Twitter.

University Portal - The Department of Information Technology continues to enhance the University’s new PirateNet portal, making available new channels that allow easy one click access to various information systems such as Banner, Kronos time-keeping and People Admin. A new cross functional team of Applications Development, Web Development and Public Relations/Marketing has been convened to improve, modernize and simplify services offered through the University’s website.

First steps in this project have been changes in the way the community signs on to web resources and the addition of direct links on the University’s main website to the most utilized web resources; email, Blackboard and PirateNet. Next steps include the streamlining of content inside the PirateNet, investigation of a more robust single sign on system and the replacement of the presentation layer of the PirateNet portal.
Part VI

Information Technology
Goals and Objectives
AY 2009 - 2010
Department of Information Technology Goals and Objectives for AY'2009-10

GOAL 1: In AY'2009-10 the Department of Information Technology will continue support of the University's Banner Project and the improvement of the University's business processes.

Objectives: Some specific objectives and/or initiatives for supporting the Banner Project and the improvement of the University's business processes in AY'2009-10 include:

- IT will support the continued development and expansion of the University's Data Warehouse, providing greater access to institutional information, by
  - supporting the functional areas in developing and deploying additional data views and reports in the Banner Operational Data Store (ODS),
  - installing the Enterprise Data Warehouse and supporting the functional areas in loading data and developing views and reports for EDW, and
  - deploying Cognos as the University's support data analysis tool for multivariate analysis of the University's data, and,
  - Creating views in the data warehouse to the legacy Plus data that was not converted into Banner so that users can access historical Plus data that was not converted.

- IT will support the continued improvement and automation of processes in Enrollment Services, Finance, and HR/Payroll by implementing Banner Workflow.

- IT will support the use of Banner in support of international programs by implementing FSA-Atlas, an enhancement to Banner that provides features for the support, tracking, and reporting of international students.

- IT will support the upgrade to Banner 8.1 in Fall 2010. Banner 8.x offers some significant improvements over Banner 7, including making it easier for Banner customers to enhance Banner.

- IT will ensure that Banner services are highly available to the University community by:
  - with Banner 8.x, moving the Banner servers to a virtualized server environment, allowing redundant server to be located in different locations, ensuring service continuity in the case of a major systems failure.

- IT will assist the Banner Executive Steering Committee in developing and implementing a permanent organization and committee structure dedicated to the maintenance of the Banner systems, Banner policies (such as those regarding Banner security, training, and data standards), and the use of Banner to continually improve the University's business processes.

- IT will begin a multiyear project to implement ITIL (IT Infrastructure Library), an industry standard service management framework that defines industry standards for IT service levels, incident response, system maintenance, availability, security, and business continuity.
GOAL 2: In AY’2009-10 the Department of Information Technology will continue and intensify efforts to ensure that all University IT systems and services are highly available, highly reliable, and highly secure.

Objectives: Some specific objectives and/or initiatives for ensuring high availability, reliability, and security for the University's IT systems in AY’2009-10 include:

- IT will continue to upgrade critical services to have redundant servers with load balancing to ensure that critical systems are highly available.
- IT will expand its server virtualization initiative to include the ability to move services across the campus network in real time, so that redundant servers can be located in separate buildings, providing added reliability.
- IT will complete the upgrade of the campus network infrastructure to implement redundant LDAP and DNS servers.
- IT will upgrade the network core, providing redundant connections across independent paths between the network core switches in Corrigan Hall and Presidents Hall.
- IT will develop a Secondary Data Center in McNulty Hall to support high availability.
- IT will implement, network authentication, Cisco Clean Access (CCA), to ensure all laptop and desktop computers connected to the campus network are free of viruses and other malware; IT will upgrade its network monitoring and management software to improve IT's ability to analyze and manage network traffic, including the campus wireless network.
- IT will implement a centralized, automated desktop and laptop backup system that will automatically back up all University data stored on the University's desktop and laptop computers issued to faculty, administrators, and staff.
- IT will begin a multiyear project to implement ITIL (IT Infrastructure Library), an industry standard service management framework that defines industry standards for IT service levels, incident response, system maintenance, availability, security, and business continuity.
- IT will complete the revision of its business continuity plan leveraging the secondary data center implemented in McNulty Hall and the independent path to the Internet from Corrigan through McNulty to significantly increase the range of services that will be continued following a crisis. IT will begin planning the expansion of the business continuity plan to include hosting equipment off site.
GOAL 3: In AY’2009-10 the Department of Information Technology will significantly enhance the technology facilities available to students and faculty.

Objectives: Some specific objectives and/or initiatives for improving the technology facilities in AY’2009-10 include:

- **Research Computing** – TLT Center will continue to expand and enhance the Research Computing Project, standardize application process for use, identify and implement software for Workload Management, develop outreach plan for communicating usage of RC, and explore and establish partnerships with local, regional, and national Research Computing groups.

- **Blackboard Outcomes System** – TLTC will work with Academic Affairs to identify three assessment projects to be facilitated through the Outcomes System for the Fall 2010 semester and assess the value of the Outcomes Systems as a part of the contracted suite of applications delivered by Blackboard.

- TLTC will evaluate the **pilot projects in the Mobile Computing Program** that provide alternate computers to faculty and students in select programs. Based on the evaluation, a decision will be made whether to continue these pilot programs. These programs include:
  - the **Mac Pilot Project**, providing as part of the Junior technology refresh a Mac laptop to students in select music and graphic arts programs in Art and Music and Communication.
  - the **Tablet PC Pilot Project**, providing a Tablet PC to all undergraduate students in the natural and physical sciences (Biology, Chemistry, Math/CS, and Physics).

- TLTC will develop and enhance **Web 2.0** technologies and services offered to the University community, specifically, YouTube, iTunes University, Movable Type and MediaWiki.

- TLTC will continue to work with the University Library to **increase the multimedia capabilities** of the Information commons, adding digital media acquisition equipment and other appropriate technologies for student use and consumption.

- The TLT Center will continue support of learning technologies/systems; maintain current systems and ensure their adoption. Maintain and Support Course Management Systems (Blackboard and Sakai) and increase faculty participation in the Sakai pilot project.

- The TLT Center, in cooperation with Academic Affairs, will identify and implement the next phase of classroom upgrades/improvements.

- The TLT Center will implement a web based equipment request package for Media Services.
GOAL 4: In AY’2009-10 the Department of Information Technology will continually improve technology support services for the University community.

Objectives: Some specific objectives and/or initiatives for improving technology service and support for the University community include:

- IT will assess its Help Desk tracking system (InterTrack), and either re-implement or replace this system in order to provide the IT management team with more detailed and granular information about technology problems experienced by the University community.
- TLTC will assess its Tech Skill I course, a six hour technology orientation program that is mandated by Freshman Studies, to ensure Tech Skills I is meeting the needs to ensure basic technology proficiency for incoming students. IT will develop and implement a Tech Skills IV course for advanced users who have successfully completed Tech Skills I, II, and III to provide students the opportunity to continually improve their technology proficiency.
- TLT Center will develop and enhance the TLT Center’s ability to deliver self-paced and instructor led online education with the creation of Employee Technology Skills Course that is being developed for implementation through Human Resources. Development will also begin for a Getting Started with Blackboard self-paced course.
- IT will assess the University's use of the SunGuard "after hours" help desk service and develop and implement plans to better utilize this valuable service.
- IT will begin a multiyear project to implement ITIL (IT Infrastructure Library), an industry standard service management framework that defines industry standards for IT service levels, incident response, system maintenance, availability, security, and business continuity.
- TLT Center will develop recommendations for staffing the Information Commons with technologically capable staff to assist students in the incorporation of multimedia into their coursework.
- The TLT Center Computer Training staff will continue to respond to the training needs of the community, conduct outreach events, and develop its curriculum around needs and requests from the community.
- The TLT Center, through the use of assessment, will identify performance standards for all IT units.
GOAL 5: In AY’2009-10 the Department of Information Technology will strengthen its systemic efforts to support the effective use of technology to improve teaching, learning, research, assessment and the administration of the University.

Objectives: Some specific objectives and/or initiatives for strengthening IT’s systemic efforts to promote and support the effective use of technology in teaching and learning in AY’2009-10 include:

- **Curriculum Development** – TLT Center will continue to support the internal grant programs that **promote the integration of appropriate technologies into the curriculum**. Working with Academic Affairs these programs will align with goals and objectives of the University, the Provost’s Office and the Academic Deans. Specific support of:
  - the A&S Online Course Grant program to streamline the course review process and support the planning stage of an online liberal arts degree
  - the Stillman School of Business to manage the call for proposals, payments for the development grants and assist business faculty in developing online courses

- **Outcomes Assessment** – the TLTC will work with Academic Affairs and the academic departments to select and/or develop the appropriate technologies to facilitate the assessment of student learning, program effectiveness and the new University Core proficiencies. Specifically, the TLTC will work with the Core Curriculum Committee and the Associate Provost for Assessment and Planning to pilot an assessment in the Spring 2009 of the core proficiencies.

- **Mobile Computing Assessment Program** – the TLT Center will continue its longitudinal study of student use and satisfaction with instructional technology with assistance from members of the Faculty Senate and administrators. Additionally the TLT Center will report on the results of the Faculty Survey of Technology Use and Satisfaction and its relationship to teaching, research, and service. Services and faculty development around the needs and preferences identified will be developed.

- **Teaching, Learning and Technology Roundtable** – will continue to meet the technology needs of the University community by working with the community through the TLTR to identify needs and problems. Meetings of community leaders will be convened to discuss instructional technology issues on the South Orange campus and evolving instructional technologies in Higher Education. The TLTR will form subcommittees to discuss and report on particular issues in higher education as it relates to instructional technology and Seton Hall University. The TLTR will hold at least 3 faculty showcases, including faculty best practices and the annual copyright event.

- **The TLTC** will convene a steering group with Academic affairs and the Faculty Senate to guide the initiatives, development activities and planning of service offerings of the TLT Center.

- **Faculty Development** – the TLT Center will support the SHU Community’s use of academic technology through hosted events by holding at least six faculty development events to increase the awareness of current technology and develop the community’s skills in the use of these technologies to support the infusion into teaching and learning. This includes: the annual faculty Fall Boot Camp, Online Learning Boot Camp, Winter Workshops, and Summer Series. Additional support will be provided by maintaining an informational blog and newsletter.
• **Online Education** – the TLT Center will continue to work with the College of Arts and Sciences, the Law School, the Stillman School of Business, and the newly created Division of Continuing Education & Professional Studies to develop and support online course offerings. The review process for Quality Matters will be streamlined using an abbreviated version of the QM rubric. Planning and implementation of an online student assessment and a faculty satisfaction survey will be done this year as well as providing faculty with a self-assessment tool to gauge their development needs.

• **Assessment** – the TLT Center will assess the effective use of technology to improve teaching and learning through systematic evaluation efforts including: Mobility Assessment (Students and Faculty), Implementation of the Blackboard Outcomes System and pilot projects, Curriculum Development Initiatives (CDI) projects, Faculty Initiatives Grant (FIG) projects, or special projects. Assess instructional technology projects and their impact on teaching and learning. Additionally, we will participate in national studies on the impact of technology on teaching and learning.

• **Digital Video** – the TLT Center will continue to expand the use of Digital Video and develop delivery mechanisms that are easier to use, as well as, develop website and training materials specific to video technologies, explore and test new technologies for streaming digital video, establish process to catalog existing and new video, capture and webcast at least three “live” events, and capture/produce 'on-demand' events for the University Community.

• **Web Development** – the TLT Center will continue to work with Web Development Team to enhance and develop the University use of Common Spot. Existing sites that are not hosted in Common Spot will be reviewed and planning future needs of each site will be documented. The use of Core Metrics in TLT Center projects will be implemented where appropriate and a plan to distribute data gained via use of Core Metrics to all invested parties. A process to identify and implement technologies that complement use of Common Spot.

• The TLT Center will continue to be a leader in the use of information technology and participate in the larger community of higher education to showcase the work of Seton Hall University.
GOAL 6: In AY’2009-10 the Department of Information Technology will continue to explore cutting edge technologies with the potential of engaging learners and improving communication, collaboration, and productivity.

Objectives: Some specific objectives and/or initiatives for exploring cutting edge technologies in AY’2009-10 include:

- The TLT Center will continue development of the Seton Hall Second Life Island; continue support of courses that are using Second Life, increase web presence and dissemination of information through Wiki. Alternative Virtual Worlds will be investigated, among the possibilities is Sun Microsystems’ Project Wonderland as well as other open source virtual worlds. Additional faculty will be recruited into the Second Life Pilot Project.

- The TLT Center will continue support the new SHU Mobility Pilot Project, exploring the use of cell phones and other highly mobile devices in the support of teaching, learning, collaboration, and access to institutional information. UITS will work with the University's Web and Learning Management System vendors to enable access to more of the University's communication and student services via cell phones and other highly mobile devices. The TLT Center will work to develop pilot content that is accessible via cell phone technologies, such as documentation, tutorials, and course materials.

- The TLT Center will continue to identify cutting edge technology that has the potential to enhance Teaching, Learning Assessment, Engagement, and Collaboration.
Part VII

Conference Presentations & Publications
Conferences, Presentations & Publications

Publications


Conference Presentations


Landry, Stephen G. (with Chester, Tomothy, CIO, Peperdine University, and Meyer, Keith, VP Managed Services, Sungard, Inc.) Two Models for Managed Solutions for the Technology Help Desk, EDUCAUSE 2009, Denver CO, October 2009.


Giridharan, Sripriya, Standing by our Security Policy, Penn Banner User’s Group Conference, November, 2009


Mustachio, Nancy, Disentangling Campus Scoop via Luminis, SunGard Summit, April 2010

Reddy, Satish, User Information Channel with Active Directory, SunGard Summit, April 2010

Fisher, Paul E., How Technology Ca Facilitate Assessment, Bridgepoint Education Analyst Meeting, San Diego, CA, May 19, 2009

Fisher, Paul E., Blackboard Learn Advisory Presentation, San Francisco, CA, June 8, 2010


The TLT Center and NJEdge partnered to host the 11th Annual Faculty Best Practices Showcase at Seton Hall University. The event took place on March 12, 2010 with over 100 participants in attendance. Participants were able to attend 3 different tracks (Technology, Multimedia, Online Learning/Web 2.0 and Social Networking) consisting of 23 presentations and 14 poster sessions. The keynote speaker, Craig Knapp, demonstrated his work with augmented reality and the possibilities of this emerging technology for teaching and learning.

The TLT Center and NJEdge partnered to host a DLAAB meeting, Mobile Learning is for Everyone on June 16, 2010. The day focused on various examples of how mobile learning is being utilized to support students. Presenters included Thomas Edison State College, Seton Hall University, Blackboard and Pearson Learning. Thirty seven participants registered to attend this event.
Part VIII

FY’10 IT Budget Overview
Summary of IT Budget and Personnel

The Office of Information Technology at Seton Hall University is charged with ensuring that the University’s vision, goals, and objectives for the use of information technology are achieved. It is the role of the Office of Information Technology to provide leadership, technical expertise, and technical support for all academic and administrative departments within the institution.

Annual Operating Budget: $19,519,000

Salaries and Wages: $7,476,000
Fringe Benefits: $2,707,000
Mobile Computing Program Budget: $6,045,000
General Operating Budget: $3,291,000

Number of Full Time Employees: 98

Employee Breakdown by Title:
- Executives, Directors: 17
- Managers, Supervisors: 8
- Professional (non-supervisory, exempt) Staff: 60
- Non-Exempt Staff: 13
- Other Employees:
  - Graduate Assistants: 7
  - Student Technology Assistants (STA’s) (approx. 100) (undergraduate student workers; actual number varies)

Employees Breakdown by Functional Area:
- Office of CIO: 7
- PC Support Services: 21
- Teaching, Learning, Technology Center: 22
- Web Content Systems: 4
- University IT Services (UITS): 7
- UITS Application Services & Development: 14
- UITS Network and Communications Support: 8
- UITS Production Control & Security: 5
- UITS Systems Support: 10

The Office of Information Technology is guided by the University’s mission and strategic plan and the University’s IT Long-Range Plan.
Summary of FY’11 Projected Expenses and Projected Revenues

Projected Expenses vs. Projected Revenues

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY’11 Projected Expense Budget</td>
<td>19,519</td>
</tr>
<tr>
<td>(including fringe benefits)</td>
<td></td>
</tr>
<tr>
<td>FY’11 Projected Revenue Budget</td>
<td>(7,307)</td>
</tr>
<tr>
<td>Net (Expenses – Revenues)</td>
<td>12,212</td>
</tr>
</tbody>
</table>

Summary of Projected FY’11 Revenues

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mobile Computing Technology Fee</td>
<td>6,571</td>
</tr>
<tr>
<td>General (“non-mobile”) Technology Fee</td>
<td>585</td>
</tr>
<tr>
<td>Other IT Revenue</td>
<td>151</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>7,307</strong></td>
</tr>
</tbody>
</table>
FY’11 IT Budget Draft  
Division of Finance and Information Technology  
Office of Information Technology  
July 16, 2010  

### Summary of FY’11 Expense Budget

<table>
<thead>
<tr>
<th></th>
<th>Amount ($000)</th>
<th>% of Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SALARIES AND WAGES</strong></td>
<td>10,183</td>
<td>52%</td>
</tr>
<tr>
<td><strong>OPERATING</strong></td>
<td>3,291</td>
<td>17%</td>
</tr>
<tr>
<td><strong>MOBILE COMPUTING BUDGET</strong></td>
<td>6,045</td>
<td>31%</td>
</tr>
<tr>
<td><strong>TOTAL EXPENSE BUDGET</strong></td>
<td>19,519</td>
<td>100%</td>
</tr>
</tbody>
</table>

#### Major Subdivisions in the Office of IT
- Office of Information Technology: 4%
- Systems Support: 7%
- Production Control & Security: 5%
- Application Services & Development: 10%
- PC Support Services: 10%
- TLT Center (Faculty and Classroom Support): 10%
- Telecommunications: 4%
- Web Content Systems: 2%

#### Major Operating Expense Categories
- Computers (Faculty, Admin/Staff, Public Labs): 3%
- TLT Center (CDI, Media Equip., etc.): 1%
- Telecommunications (AT&T, Verizon, Internet Connection): 5%
- Computing Operations (UTS Operating – Banner, Oracle, etc.): 8%
Summary Forecast of FY’11 Major Operating Expenses

<table>
<thead>
<tr>
<th>Description</th>
<th>Amount ($000)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Telecommunications</strong></td>
<td></td>
</tr>
<tr>
<td>Telephone Service – Local and Long Distance (AT&amp;T)</td>
<td>180</td>
</tr>
<tr>
<td>Internet Service (Level 3)</td>
<td>176</td>
</tr>
<tr>
<td>Cisco Systems Computer Hardware Maintenance</td>
<td>162</td>
</tr>
<tr>
<td>Voice Mail Maintenance</td>
<td>16</td>
</tr>
<tr>
<td><strong>Computer Operations</strong></td>
<td></td>
</tr>
<tr>
<td>Banner Software Maintenance – Add’l Modules</td>
<td>194</td>
</tr>
<tr>
<td>Oracle Software Maintenance</td>
<td>168</td>
</tr>
<tr>
<td>Banner Software Maintenance – Finance, Fin’l Aid, HR, Student</td>
<td>141</td>
</tr>
<tr>
<td>VMWare Site License</td>
<td>130</td>
</tr>
<tr>
<td>Voyager Maintenance</td>
<td>55</td>
</tr>
<tr>
<td>Software Maintenance for SAN</td>
<td>35</td>
</tr>
<tr>
<td>Online Analytics from CoreMetrics</td>
<td>35</td>
</tr>
<tr>
<td>Maintenance for QLogic SAN Switches</td>
<td>27</td>
</tr>
<tr>
<td><strong>Teaching, Learning, and Technology Center</strong></td>
<td></td>
</tr>
<tr>
<td>Faculty Support Initiatives (CDI, TLT Summer Inst., etc.)</td>
<td>200</td>
</tr>
<tr>
<td><strong>Mobile Computing Program Budget</strong></td>
<td></td>
</tr>
<tr>
<td>Lease Payments for Laptop Computers</td>
<td>3,700</td>
</tr>
<tr>
<td>BlackBoard Hosting</td>
<td>411</td>
</tr>
<tr>
<td>Microsoft Campus Agreement and Premier Support</td>
<td>356</td>
</tr>
<tr>
<td>Wireless Replacement</td>
<td>350</td>
</tr>
<tr>
<td>BlackBoard Software</td>
<td>261</td>
</tr>
<tr>
<td>Help Desk Coverage</td>
<td>111</td>
</tr>
<tr>
<td>Microsoft Premier Support</td>
<td>72</td>
</tr>
<tr>
<td>RSmart/Sakai (open source course management)</td>
<td>60</td>
</tr>
<tr>
<td>Maple Soft Licenses (Symbolic Algebra Software)</td>
<td>59</td>
</tr>
<tr>
<td>Symantec Norton Anti-Virus (A Prompt) Software Licenses</td>
<td>31</td>
</tr>
<tr>
<td>PCSS Staffing (Temp. Help)</td>
<td>30</td>
</tr>
<tr>
<td>SPSS Licenses (Statistics Software)</td>
<td>27</td>
</tr>
</tbody>
</table>

**Note:** Only select major expense items are listed above; other expenses not detailed roll up to the expense budget on the previous page.
Part IX

FY’10 Metrics & Statistics
### Department of Information Technology Metrics and Statistics

#### Learning System Statistics:

<table>
<thead>
<tr>
<th></th>
<th>FY 09</th>
<th>FY 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Active Courses</td>
<td>3,962</td>
<td>1,697</td>
</tr>
<tr>
<td>Number of Active Users</td>
<td>12,602</td>
<td>12,121</td>
</tr>
<tr>
<td>Average Page Views Per Day</td>
<td>19,150</td>
<td>64,522</td>
</tr>
<tr>
<td>Number of Active Organizations</td>
<td>530</td>
<td>486</td>
</tr>
<tr>
<td>Page Views on Most Active Day</td>
<td>25,326</td>
<td>142,570</td>
</tr>
</tbody>
</table>

#### Faculty Support and Computer Training Statistics:

<table>
<thead>
<tr>
<th></th>
<th>FY 09</th>
<th>FY 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average number of hours/month w/Faculty (best approx)</td>
<td>300</td>
<td>350</td>
</tr>
<tr>
<td>Average Courses offered/month</td>
<td>23</td>
<td>18</td>
</tr>
<tr>
<td>Average # of attendees/month</td>
<td>126</td>
<td>40</td>
</tr>
<tr>
<td>Average # of one to one sessions/month</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>Total Faculty Attendees Annual</td>
<td></td>
<td>591</td>
</tr>
<tr>
<td>Total Student Attendees Annual</td>
<td></td>
<td>1,459</td>
</tr>
<tr>
<td>Total Employee Attendees Annual</td>
<td></td>
<td>668</td>
</tr>
</tbody>
</table>

#### Media Services, Classroom and Event Support

- 24 Classroom Equipment Deliveries/Day
- 6 Trouble calls/3 repairs
- 5 Event setups per day
- 64 hours/month of Video Conference/Distance Learning

#### University Website Statistics:

<table>
<thead>
<tr>
<th></th>
<th>FY 09</th>
<th>FY 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unique Visitors</td>
<td>370,991</td>
<td>425,663</td>
</tr>
<tr>
<td>New Visitors</td>
<td>127,325</td>
<td>153,667</td>
</tr>
<tr>
<td>Total Page Views</td>
<td>1,913,116</td>
<td>2,706,785</td>
</tr>
<tr>
<td>Page Views / Session</td>
<td>1.84</td>
<td>2.50</td>
</tr>
<tr>
<td>On-Site Searches</td>
<td>47,892</td>
<td>64,454</td>
</tr>
<tr>
<td>Average Session Length</td>
<td>7:38 mins</td>
<td>5:53 mins</td>
</tr>
</tbody>
</table>

#### Major System Uptime

<table>
<thead>
<tr>
<th></th>
<th>FY 09</th>
<th>FY 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Banner</td>
<td>99.58%</td>
<td>99.55%</td>
</tr>
<tr>
<td>Email</td>
<td>98.69%</td>
<td>99.46%</td>
</tr>
<tr>
<td>Website</td>
<td>99.86%</td>
<td>99.78%</td>
</tr>
</tbody>
</table>

#### Internet Usage

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Bandwidth Usage</td>
<td>75mb</td>
<td>150mb</td>
</tr>
<tr>
<td>Max Bandwidth Usage</td>
<td>100mb</td>
<td>200mb</td>
</tr>
</tbody>
</table>
### Technology Service Desk

<table>
<thead>
<tr>
<th></th>
<th>FY 2009</th>
<th>FY 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Calls/Month</td>
<td>2797</td>
<td>2694</td>
</tr>
<tr>
<td>Max Calls/Month</td>
<td>2490</td>
<td>3836</td>
</tr>
</tbody>
</table>

### Email Volume

<table>
<thead>
<tr>
<th></th>
<th>FY 2009</th>
<th>FY 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Messages/Month</td>
<td>56.3 million</td>
<td></td>
</tr>
<tr>
<td>Spam Blocked/Month</td>
<td>54.2 million</td>
<td></td>
</tr>
</tbody>
</table>

### Telephone Volume

<table>
<thead>
<tr>
<th></th>
<th>FY 2009</th>
<th>FY 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Calls/Month</td>
<td>127,951</td>
<td>125,814</td>
</tr>
<tr>
<td>Max Calls/Month</td>
<td>144,276</td>
<td>138,894</td>
</tr>
</tbody>
</table>

### Laptop Repairs

<table>
<thead>
<tr>
<th></th>
<th>FY 2009</th>
<th>FY 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Repairs/Month</td>
<td>253</td>
<td>244</td>
</tr>
</tbody>
</table>