

School of Nursing
2002 Vision Plan for Information Technology
January 2002

Introduction

This report outlines the proposed projects, acquisitions, and/or upgrades for student IT resources within the School of Nursing. Student Information Technology fees generated by nursing students and Vision funds awarded to the School will finance improvements delineated in the proposal. Occasionally, there are funds identified by the dean in special accounts or in research grants that may augment purchases or renovation.

The focus of the School's instructional technology (IT) goals and objectives are detailed at <http://www.nur.utexas.edu/it-ni/2002itstratplan.html>. Briefly, our objective is to encourage and facilitate the inclusion of instructional technology and nursing informatics concepts in the curricula. Further, we aim to promote the competent use of technology by faculty and student, preparing student and faculty to teach and practice nursing in the future health-care system. Therefore, we want to provide sufficient power and resources to enable teaching and learning activities that foster the innovative use of technology and assist faculty and students in viewing technology as yet another tool to improve nursing practice, teaching, and research.

Summary of 2002-2003 Projects

Projects identified to be addressed during the next academic year include: 1) network upgrade and augmentation, 2) student facility upgrades, 3) large classroom system redesign, 4) palmtops in public health and advanced practice curricula, and 5) digital video project.

1. Network upgrade and augmentation

Care and maintenance of the School's infrastructure is an ongoing project. This year we will be finishing the upgrade of Ethernet ports for faculty, student and classroom to 100 Mb/s. We plan to add features, accelerators, network monitoring software, and replace backup equipment to protect and improve the reliability and functionality of the School's major network. Further, we are investigating methods whereby we can better analyze and manage problem calls and track the utilization of the School's equipment.

2. Student facility upgrades

The school has two computer facilities for students: the Learning Center and the Research Computer Facility.

The Learning Center has a 12-seat (10 PC and 2 Mac) computer classroom and a 17-seat (11 PC and 6 Mac) open user facility. Accomplishing a two-year life-cycle replacement plan for student resources during the spring, 2002 semester, all Macintosh computers will be upgraded to G4 with flat panel monitors. Next academic year we will do a life-cycle upgrade for all PCs. In addition, during Spring 2002, the student graphic station workstation, scanner, and software were upgraded. As mentioned earlier, all Ethernet ports in the student facilities are awaiting upgrade to 100 Mb/s.

3. Large classroom system redesign

Initiated in past Vision plans, the renovation of the School's Technology Classrooms has begun. At this time the following progress has been realized:

1.106 (the School's Telecommunication Classroom) – in the very near future will be equipped with a podium with touch panel control of all AV equipment.

1.108 – has been wired for a new podium and a new projector will be installed as soon as it arrives.

1.110, 1.116, and 1.118 – are awaiting equipment, podia, and wiring upgrades/renovations. In past renovations, acoustic improvements have been made.

Multipurpose Room – originally dedicated to the discontinued Continuing Education Program, is used less now because of its design limitations and is awaiting funds for a major structural and equipment redesign.

4. Palmtops into the public health and advanced practice curricula

During Fall 2001 semester two faculty, Dr. Elizabeth Abel, an Advanced Practice faculty member, and Dr. Donelle Barnes, in the Public Health division, participated in Dr. Updegrove's iPACs initiative. These faculty studied how palmtops might enrich the curriculum in their respective area. For example, students in the advanced practice clinical will be able to have a multitude of resources such as drug reference databases or treatment protocol available when working with clients. Further, public health nurses will be able to refer clients to web sites for health information or information about clinic visits when making homes visits. We wish to extend this teaching tool to more students and experiment further with this innovative tool.

5. Digital video project

Instructional videotapes and CD-ROMs of clinical skills are commonly used methods of instruction for students in the baccalaureate program. Basic clinical skills are areas of great concern to beginning nursing students. Teaching methods that facilitate mastery of these skills will be of great value to students, faculty, and the patients with whom they work. Our plan is to digitalize programs for which we have copyright permission and deliver them via the web, making them available to students 24/7 from any location.

ITAC Expenditures for 2000/2001 and 2001/2002

		2000-01	2001-02
Income	Grant to School	\$25,000	\$63,000
	Vision Funds	\$92,000	\$110,000
	TOTAL	\$117,000	\$173,000
Expended	Hardware	\$79,917	\$71,000
	Software/Supplies	\$15,948	\$7,410
	Renovations/Repairs	\$5,796	\$10,000
		\$101,661	\$88,410

During the 2000-2001 academic year, the bulk of SIT funds went to the upgrade of hardware in the School's infrastructure and the Student facilities included in the **1999-2000 Vision Project #1**. For example, among the major purchases were new equipment for the school's primary server NurseNet and network hubs and routers (Since this equipment is used for faculty and student purposes, the cost was shared half and half between student and school funds.). In addition, ITAC fees funded the upgrade of all PCs, the student's graphic workstation, three research lab computers, scanner, and printer. Computers in three tiered classrooms and two portable projector units were upgraded. Two additional laptop computers (one Mac and one PC) were purchased for student checkout. As proposed in **1999-2000 Vision Project #2**, renovation was finally started on the tiered (large) classroom audiovisual control system redesign as one large projection system was replaced in the telecommunication classroom (1.106) and two additional mobile projectors and computers were added. As proposed in **1999-2000 Vision Project #3**, Bedside Charting Simulation Upgrades, three computers in 4.120 were upgraded for use with Practice Partner, a clinic management and patient charting system.

A **1998-1999 Vision project** proposed the addition of a fiber optic feed to the nursing building. This was finally accomplished fall of 2001. With this addition and the necessary electronics, we now have a fast data feed to the nursing building. I have not seen this charge deducted from our SIT account.

Expenditures so far this academic year include upgrading all Macintosh computers in the Learning Center computer facility as proposed in **2000-01 Vision project #1**. In preparation for the digital video project the digital editor was purchased. As proposed in the **2000-01 Vision project #2** renovation of the large classrooms continued. One room will be completed in the near future after delivery of the podium with touch control system and an additional large video projector system. As work continues and the second semester gets underway, the Information Management Advisory Committee will direct the expenditure of the remaining funds.

At this time (early spring semester) there is approximately 80 thousand dollars left in this account. However, all recurring charges such as phone lines, licenses, and similar charges have not yet been encumbered. These items account for approximately 30 thousand dollars per academic year. As the semester progresses, I am hopeful that we can purchase an additional podium for the second tiered classroom.

Review of Infrastructure, Services, and other Services supported by Local and Special Funds

Equipment:

All faculty members have desktop computers that are networked to SON and external servers. All have access to the School's intranet, e-mail, Internet, and FTP servers. Although some faculty computers are slower than we would like, all are at least the grade of a PowerMac or better. During the past year, approximately 50% of student and faculty computers have been upgraded to 100 Mb/s network connections. All classrooms have been wired with network access, which are being upgraded to 100 Mb/s. The weakest links in IT resources continue to be the lack of computing power on faculty desks (although this has been greatly improved over the past two semesters due to the Faculty Computer Initiative) and the School's inability to respond quickly to student, faculty, and staff technical and educational needs.

IT Staff:

One full-time staff member, a Sr. LAN Administrator, one half-time student employee for user education, and three 20-hour teaching assistants are responsible for the Schools infrastructure. During the Fall 2001 semester the SON subcontracted the management of the Learning Center student network to ACITS. The School will profit from this relationship in that our staff and our management systems will benefit from the research, development, and best practices developed by ACITS. To further build our technical staff, the SON purchased twelve seats in the Element K Training initiative offered to the University.

The SON also has a production staff consisting of a graphic artist and a radio, television, film (RTF) production manager. Both of these individuals are highly skilled in information management and instructional technology and provide valuable computer graphic design and production services for the school. Furthermore, an important responsibility of the production manager's role is that of the School's Webmaster.

Access to Computers:

Students gain access to computer resources through the Learning Center (LC) and the Research Computer (RC) Labs.

Learning Center (LC) Computer Resources:

The LC Computer Classroom consists of 12 computer workstations and a teacher station. Ten (83%) are Pentium IIIs. Two (17%) are Macintosh G3s. All computers, managed by LabManager software, have a full complement of software needed by students, plus Internet access.

A general use computer facility provides students with 18 workstations (G3s and Pentium IIIs), one graphic workstation (G4 with full graphic capabilities, scanner, film recorder, and printer), two computer-video interactive stations, and other traditional audiovisual stations: VCR, slide projectors, and audio tape players. A Pentium II PC with a graphic accelerator card houses a virtual reality application, CathSim®, providing students with instruction and practice performing venipunctures.

Research Computer (RC) Lab:

The RC Lab has 8 workstations (Pentium IIs and IIIs and one G3s) with software needed by graduate students learning about and conducting original research. Software such as SPSS, SAS, Ethnograph, N5, NQuery, and LISREL are examples of applications available.

Other LC resources with IT implications:

The Simulation Lab features three clinical simulation classrooms with computerized hospital information systems (HIS) used in local facilities. One classroom has BedCom®, the Hospital Information System (HIS) formerly used by Seton Medical Center. A second classroom is using PracticePartner®, a community health clinic management and patient record system. The third classroom has the Meditec® hospital information system (HIS) used in the South Austin Medical Center (SAMC). Negotiations are under way with the Temple VA to begin using their HIS, replacing the outdated BedCom® system.

The Production Facility provides a graphic artist, a production manager, and a full array of design and graphic tools. The production staff creates or helps users learn to create multimedia presentations, posters, newsletters, logo design, slides, HTML documents, and promotional materials for various programs of the School. This department also is responsible for the design and maintenance of the School's Web page.

Classrooms:

Tiered Classrooms:

The School has one fully equipped technology classroom that supports two-way audio, video, and data capabilities, and computer-driven multimedia equipment. This room is under renovation and will soon feature a completely automated touch panel with new equipment including a projector with long throw lens. The other four-tiered classrooms (1.108 through 1.118) are in varying stages of renovation. All of the large (non-tiered) classrooms and conference rooms have Ethernet ports. Three of the large classrooms have had blackout curtains for better light control installed.

Other School of Nursing Computing Projects:

The School sponsors two nurse-managed clinics: the Community Women's Wellness Center(CWWC) and the Children's Wellness Center (CWC). These clinics demonstrate nursing roles and the technology of tomorrow's health-care system and are important clinical practice sites for our students. PracticePartner®, clinic management and patient record software, was purchased for the CWWC. The software was purchased by one of the grants that fund the clinic and the equipment was purchased by student ITAC funds. As soon as the CWC's funding is stabilized, the use of PracticePartner® software will be considered for this facility.

Research Program:

The faculty have successfully competed for a total of approximately \$12 million in extramural research funding that will be disbursed over the next five years. All programs depend heavily on technology to support collection, management, and analysis of data, and dissemination of findings. All programs depend on SON IT staff for support and consultation.

Specific ITAC Funding Requests

Project #1: Infrastructure Augmentation

The vision, mission, and goals of the School of Nursing focus on providing users resources and support to become full-fledged members of the electronic community. Fundamental to achieving these goals is providing students, faculty, and staff with a dependable, up-to-date infrastructure, with timely maintenance, replacement, and upgrade of infrastructure components. This project serves the entire School: students, faculty, and staff. Instructional activities and administrative functions benefit from a secure, efficient network. The following improvements will be among the improvements made this academic year.

Resources, Equipment, and Software Needed to Accomplish Project Goals:

Item	Cost per item	Cost
Upgrading remaining ACOS in student facilities to 100 Mb/s	80 ports @ \$15	\$1,400
Accelerators (16-ports) adapters	14 @\$1,600 200 @\$3.00 each	\$22,400 \$600
Network monitoring software	1 @ \$2,500	\$2,500
Replace/upgrade backup equipment with 8 mm tape autoloader including upgraded software	1 @ \$3,500	\$3,500
RAID Array for Server backup	1 @ 1,500	1,500
Problem Management Software	under study	
Asset tracking software	under study	
	TOTAL	\$31,900

PROJECT #2: Student Facility Upgrades

Spring of 2003 we plan to do a life cycle upgrade of PCs in the computer classroom and the public user facility. This will involve replacing 24 computers in the Learning Center computer facility and 6 in the Research computer lab.

Resources, Equipment, and Software Needed to Accomplish Project Goals:

Item	Cost per item	Cost
Computers with flat panel monitors	30 @\$3500	\$105,000
Revise security to accommodate		\$500

new computers

TOTAL

\$105,500

PROJECT #3: Large classroom audiovisual control system redesign.

The large, tiered classrooms are mixtures of technologies of various vintages. Because of this, repair is difficult, if not impossible. We are in the process of a major upgrade of the entire sound and multimedia (MM) control systems in the five-tiered classrooms. Matching systems in all large teaching environments is important to facilitate faculty use of the equipment and encourage their continued improvement in skills using MM systems.

The upgrade of these rooms will benefit the entire student body. Other University units who use these rooms, such as the Office of Admissions would benefit from the upgraded capabilities and the more user-friendly controls.

Dr. Kurt Bartelmehs, Coordinator of Computational Resources for the College of Natural Sciences, assisted us with the design and estimate of the renovations.

Resources, Equipment, and Software Needed to Accomplish Project Goals:

Item	Cost per item	Cost
Projector 2000 lumen XGA with long throw lens	1 @ \$8,000	\$8,000
Console (includes computers, document camera, matrix switcher, and necessary control systems)	1 @ \$20,000	\$20,000
Cables and Installation	1 @ \$6,000	\$6,000
TOTAL FOR ONE ROOM	\$34,000	
	TOTAL (3 remaining classrooms)	\$102,000

PROJECT #4: Incorporation of palmtops into the Advanced Practice and Public Health Curricula.

State-of-the-art equipment and innovative teaching and learning methods must be incorporated into the curriculum. In addition to the innovative teaching/learning methods, palmtops may present an improved way to deliver care. Two SON faculty were included in the iPAC study. From this experience we have identified that the iPAC system does not have the features compatible with the type of jobs that need to be done. Instead at this stage of the palmtop development, Palm Pilot brand seems to have the needed operating system, memory size, and battery life required for nursing fieldwork. Expanding the availability of palmtops to one clinical group for each faculty currently using them will offer additional opportunities to explore ways of teaching and learning as well as new ways to deliver care.

Resources, Equipment, and Software Needed to Accomplish Project Goals:

Item	Cost per item	Cost
Palmtop computers Includes expanded memory (to 24) and modem	24 @ \$540.00	\$12,960
Drug database Subscription	24 @ \$130.00	\$3,120
TOTAL		\$16,080

PROJECT #5 DIGITAL VIDEO PROJECT

Instructional materials should be created and made available to students 24/7 wherever they happen to be studying. The majority of equipment needed to digitize and distribute videos has been assembled. Just a few additional pieces of equipment are needed to create and post digital videos on the school's website.

Resources, Equipment, and Software Needed to Accomplish Project Goals:

Item	Cost per item	Cost
Media Cleaner Pro 5	1 @ \$600	\$600
Final Cut Pro Ver. 3	1 @ \$300	\$300
PCI Video card	1 @ \$220	\$220
DVI to ADC Adapter	1 @ \$150	\$150
Monitor 17" flat panel	1 @ \$1000	\$1000
Video Streaming Web server	1 @ \$2,000	\$2,000
TOTAL		\$4,270

TOTAL all Projects \$259,750
