

**School of Nursing**  
**2006 Vision Plan for Information Technology**  
**December 2, 2005**

**Introduction**

This report outlines the proposed projects, acquisitions, and/or upgrades for student instructional technology (IT) resources within the School of Nursing

**Summary of 2006-7 Projects**

The projects (listed in priority order) to be addressed during the next academic year include (1) upgrade of classroom environments to facilitate innovative teaching strategies, and a boardroom-style teleconferencing facility, (2) acquisition of SimMan®, a computerized, clinical mannequin, and (3) funding to conduct a Tegrity® pilot study. A total of \$450,364 is requested to support these projects.

**1. Classroom environment**

**Requesting \$309,000**

a. Multipurpose Classroom

The School of Nursing has one large multipurpose classroom, used for large classes, high-stakes testing, and all-school gathering, that is in the process of renovation. At this time we are not able to complete all the IT/teleconferencing features required in this room—instead we are installing the infrastructure (from 05-06 Vision, ITAC funds, and the Dean’s discretionary accounts) that will enable future expansions. This proposal requests that the remaining equipment be financed by future vision.

b. Tiered and other large classrooms

The School of Nursing has 5 large tiered classrooms with fixed auditorium-style seating and 6 large classrooms with flexible tablet-arm chairs. Both types of rooms accommodate 50 to 70 students. Renovation of these rooms started several years ago. This proposal requests funding to enable us to continue with these upgrades and improvements.

c. Boardroom-size Teleconferencing facility

Teleconferencing improves communication among faculty, students, and experts around the country and enhances the quality of nursing courses both graduate and undergraduate. In addition, national and local healthcare studies point out the need more nurses in practice positions and in leadership and teaching roles. The SON intends to offer courses in Central Texas hospitals to encourage and facilitate the efforts of practicing nurses as they pursue higher degrees. In most instances these courses will be small RN to BSN and graduate-level courses—ones most suitable for seminar configuration. Therefore, our plan presents a request for assistance with developing a small teleconferencing facility for classes not accommodated by the classroom facility.

**2. SimMan Clinical Mannequin**

**Requesting \$86,264+**

As the sophistication of simulators improves, the faculty of the school of nursing is able to provide better instructional and practice opportunities for students. Purchasing a computerized model such as ‘SimMan’ would greatly enhance our ability to create situations that would challenge and test our students’ clinical and decision-making skills.

This proposal requests funds for the simulator and resources needed to integrate it into the various programs of the school.

### **3. Tegrity® Pilot**

**Requesting \$ 55,100**

Tegrity® is an innovative teaching/learning system that records instructional material as presented to students, archives the content in Blackboard® and systematically coordinates the content with students' class notes. Students can review lectures or class materials, in part or totally, as they review their class notes at any time or at any location with Internet access. This proposal requests funds to conduct a pilot study to evaluate the use of this system in the School of Nursing. Findings will be shared with the UT @ Austin community and other nursing schools.

### **OVERVIEW OF CURRENT IT PROGRAMS AND INFRASTRUCTURE**

Vision/Mission/Goals of the School of Nursing are attached and may also be found at <http://www.nur.utexas.edu/it-ni/Itstratplan.htm>. Briefly, our goals include methods that 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 students, preparing faculty, staff and students to teach and practice nursing in an increasingly technology-based healthcare system. To accomplish this, we must provide sufficient computing 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 a powerful tool that promotes quality nursing practice, teaching, and research.

#### Programs

##### Instructional Environment

##### **Classrooms:**

All classroom instruction takes place in the Nursing Building. The school has 5 large fixed-seating tiered classrooms, 6 large flexible-seating classrooms, and 10 conference/seminar rooms.

One of the tiered classrooms (1.106) is used for teleconferences in the undergraduate and graduate programs and for research grants.

##### **Learning Center:**

The LC consists of 5 areas/services: a nursing/health audiovisual library, a computer facility, learning enhancement services, a clinical simulation laboratory, and an AV/web production facility. All components of the Learning Center use or teach about technology in various ways. For example, an important role of staff in the library is to teach students to search online databases for needed references.

The computer facility has 34 PCs computers, creating a network with 100 MB Ethernet access, basic application software such as Microsoft Office, and many nursing and health-related instructional programs. All computers, managed by LabManager software, provide access to the University printing. Thirteen of the computers are located in a small classroom, where computer-related classes are taught. The 21

computers outside the classroom plus the classroom workstations (when not being used for a class) are available to students 67 hours a week.

The Learning Center also furnishes 4 Macintosh and 12 PC and Macintosh laptops for student and faculty checkout.

The Learning Center is one of five areas in the Nursing building covered by the wireless network installed earlier this semester.

*The Simulation Lab* features three clinical simulation classrooms with computerized hospital information systems (HIS) used in local facilities. Each classroom is equipped with Meditec® hospital information system (HIS) used in the South Austin Medical Center, St David's Partnership, and North Austin Medical Center and the VA HIS, the system used by the Central Texas Veterans Health Care Systems. The Cerner System, being installed by the Seton Healthcare Network, will be added to the rooms in the near future. Various other technologically-enhanced models, such as torsos with computerized heart and breath sounds, are used for teaching patient care skills.

### **Research Computer Lab**

The Research Center Computer Lab has 9 workstations (7 Pentium IVs and two Apple G4) with software needed by graduate students learning about and conducting original research. Software such as SPSS, SAS, N5, nQuery, EQS, and N6 are examples of applications available to students in this facility.

### **Wireless Network**

Wireless access was added to 5 locations in the Nursing Building.

1. Learning Center
2. Research Computer Lab
3. Student Lounges
4. First floor hallway outside of the tiered classrooms
5. Patio

With these five installations it seems that most of the building is now covered.

### **Faculty and Instructional tools**

Faculty are using the following tools with varying levels of sophistication:

- e-mail
- Presentation software—PowerPoint
- WebSpace
- e-Reserve
- BlackBoard

Faculty use computerized testing software, QuestionMark® for low-stake quizzes.

One teaching team is successfully using the Classroom Response System

Two faculty members are using technology to implement a teaching schedule (modified distance learning situation) that incorporates online teaching methods and teleconferencing with remote international sites.

We are looking into Tegrity®, an innovative instructional system that records instructional presentations and allows students to coordinate his/her notes with the content as presented by the faculty.

**Clinics** (Children’s Wellness Center and Community Women’s Wellness Center)

The School of Nursing manages two clinics, one for children in the Del Valle Independent School District and one that provides breast cancer screening for uninsured women in Austin. The later clinic is in the process of expanding to a more inclusive population, as a family health clinic. These facilities provide important sources of clinical practice for students and opportunities to use technology associated with the delivery of care and the management of patient data.

**IT Staff and Student Network Management**

The IT staff of the School of Nursing consists of one Senior LAN Administrator for the entire School and 40 hours Teaching Assistants. The LAN Administrator and one 20-hour TA is paid from the School’s classified staff wages account. The other 20-hour TA is paid from the Student Information Technology Fee account (SIT Account).

Management of the student network is subcontracted (6 hours a week) to ITS. This contract is funded by the SIT account. In addition, a 20-hour student worker, who assists LC staff with new-user education, is funded by the SIT account. A 30-hour student worker, web technician partially funded by the SIT account, is being upgraded to a full-time position. It will continue to be partially funded by the SIT account.

Infrastructure:

Network -- 100MB Ethernet throughout building—offices and classrooms

Wireless -- 5 wireless areas defined and installed as of fall '04:

- 1st floor hall outside classrooms
- 2nd floor outdoor plaza
- 3rd floor research labs and study areas
- 5th floor Learning Center

Workstations

- Students, financed by ITAC: 2.4 GHz PCs, 512MB RAM
- Faculty, SON M&O, FCI, or CLC: averaging Pentium 3 or 700 MHz Mac
- Staff: average 1MHz Macs

Current and proposed funding sources for IT programs and infrastructure.

Currently, the School’s IT equipment, programs and infrastructure are funded by a combination of the SIT account, the Dean’s Various Donor account, the LC MO&E, the LC Utilization fee, the clinical course fees, and faculty research grant awards (when possible). During the past two

years, the Texas Higher Education Coordinating Board allocated funds to nursing schools that increased their student admissions as an incentive to produce more graduate nurses. We used a portion of these funds for additional instructional technology required by the larger student body. In fall 2004, the Senate of College Councils contributed \$2,400 toward installation of the wireless network.

The SON benefits from and appreciates the Faculty Computer Initiative and the Life Cycle Funding furnished by the University. This adds more powerful computers that are available for faculty—a need that is not well met at this time.

No new funding sources are anticipated in the future.

### Best Practices

Security -- all SON personnel now use strong EID passwords. Mail and fileserver passwords are medium-strength initially and may be strengthened at users' option

Barracuda 200 anti-spam and anti-virus firewall were added to protect SON incoming e-mail stream. This allows domain-level spam filtering and white listing but not individual-level.

All PCs are set to automatically download and install Windows and Norton anti-virus updates.

Macs are set to check for OS updates automatically

## **USE OF PREVIOUS ACADEMIC YEAR ALLOCATIONS**

### Programs and one-time projects

#### Instructional Environments:

Several projects have involved the instructional environments. First, SIT funds have been used to upgrade the equipment in the classrooms. IT consoles have been added to four of the tiered classrooms. We plan to order one for the remaining tiered classroom as funds are available. The final revision required by these rooms is the lighting—the large florescent lights

The large flexible-seating classrooms are in need of lighting upgrades. Dimmable, down lights were added to the fluorescent lighting in one room to give faculty more control of the level of lighting. This will be done to the other 4 large classrooms.

#### Learning Center and Research Center

All software licenses, application upgrades, repairs, and equipment replacements are funded by the SIT funds.

Student workstations are replaced on a three-year cycle. All computers in the research computer lab were upgraded to P4s in Fall 2004. Learning Center PCs were replaced in Jan 2005

**Simulation Lab**

One learning objective included in Simulation Lab experiences is to prepare students to use hospital information systems and other technology to deliver care. Two electronic charting systems are installed in all three simulation labs. In most instances software is provided by the healthcare institution with the School providing required hardware. A combination of SIT funds and clinical course fees has been used to purchase three workstations in each simulation lab. During spring 05 semester all nine computers were upgraded. Patient drugs are now dispensed using computerized cabinets. During the Fall 05 semester, three med cabinets plus laptop computers were purchased (\$12,500 each).

**Personal Digital Project**

Personal Digital Assistants (PDAs) are commonplace tools in healthcare settings. SON faculty and students in the undergraduate program have not incorporated this tool into their practice. A plan was devised to ‘plant’ some with faculty who work with beginning students. The objective was that faculty would become comfortable with them, learning to keep antidotal records of student progress and consulting installed references. Subsequently they would begin sharing this resource with students. During spring 05, 12 PDAs were purchased. We are in the process of evaluating faculty’s perception of this tool. With a favorable evaluation faculty will decide if and when PDAs should be implemented in their clinical courses.

**NEEDS AND PROPOSED USE OF FUNDS**

One-time and continuing projects

Instructional Environment

**PROJECT 1 Classroom Environments Total \$309,000**

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<b>a.</b>	<b><u>Multipurpose Room:</u></b>		<b>Subtotal</b>	<b>\$135,500</b>
	Proxima 9270 (or equiv projector)	2 @	30,000	60,000
	Electric screen	1 @	2,000	2,000
	Wireless mics with receivers	2 @	400	800
	Wall mountable speakers	4 @	500	2,000
	PA System/ceiling speakers	1 @	5,000	5,000
	Audience Mics with individual Activation/mute	1 @	700	700
	Telemetrics will mountable pan/tilt head	2 @	5,000	10,000
	Telemetrics grid mountable trolley with pan/tilt head	2 @	7,000	7,000
	Sony DXC-950 (or Equiv) mountable camera with lenses	3 @	10,000	30,000
	Interactive Console with installation and security	1 @	18,000	18,000

Multipurpose Control Room Equipment		Subtotal	\$24,000
DVD recorders (mountable)	1 @	500	500
DVR (mountable)	1 @	500	500
PA/amplifier for ceiling speakers (mountable)	1 @	500	
Echo Lab (or equiv) video switcher	1 @	10,000	10,000
Monitors (preview and program)	2 @	900	1,800
Mackie mixing board	1 @	700	700
Tandberg IP Codec (or equiv)	1 @	5,000	5,000
Time code generator (mountable)	1 @	300	300
NTSC Scan Converter (mountable)	1 @	300	300
Video monitors for all video sources/decks (mountable)	1 @	2,000	2,000
VDA for video distribution (mountable)	1 @	400	400
Equipment rack	1 @	1,000	1,000
Studio desk	1 @	1,000	1,000

**b. Classroom** Subtotal \$97,000+

Tiered classroom 1.116			
Interactive Console with installation and security	1 @	18,000	18,000
Standardization of lighting controls in tiered classrooms.			no estimate available
Six large classrooms with flexible seating			
Small modified console with laptop	6 @	3,500	21,000
Ceiling mounted projector	6 @	7,500	45,000
Dimmable lights in large classrooms	5 @	2,600	13,000

**c. Boardroom-size teleconferencing facility** Total \$52,500

Resources, Equipment and Software needed to accomplish project goals:

Videoconferencing system (e.g., Polycom)	1 @	20,000	20,000
Wall mounted camera	2 @	1,500	3,000
Ceiling mounted monitor	1 @	500	500
Sound system (e.g., Shure discussion system)	1 @	7,500	7,500
Ceiling mounted projector	1 @	7,500	7,500
Dataports	1 @	2,000	2,000
Installation		8,000	8,000
Conf table (1) and chairs (10)		4,000	4,000

**PROJECT 2 Clinical SimMan Mannequin Total \$86,264+**

SimMan	1 @	28,980	28,980
Computer	1 @	3,250	3,250
Regulator	1 @	647	647
Simulated wounds	1 @	1,387	1,387
Refurbished ICU bed			
Bedside table, over-bed table, computer table	1 @	22,000	22,000
Half-time teaching specialist	1 @	30,000	30,000
Refurbished room to accommodate Mannequin and equipment			no estimate available

**PROJECT 3 Tegrity® Pilot Total \$55,100**

Software license	1000 students @	3535,000	
Implementation fee (set-up and training by vendor)			10,000
Student equipment during pilot (Pen and notebooks)	100 students @	101	10,100

## APPENDIX

The University of Texas at Austin School of Nursing  
 NURSING INFORMATICS AND INFORMATION TECHNOLOGY STRATEGIC PLAN 2006-2007  
 reviewed 11/2005

**Vision Statement**

The vision for information technology (IT) in the School of Nursing is that all students, faculty, and staff learn, teach, conduct School and professional business independently and efficiently with out regard to time or place. Specifically:

- Students, faculty and staff are competent, comfortable users of information technology;
- Appropriate technological and educational support are available to all students, faculty, and staff;
- SON administration, students, faculty and staff appreciate, understand, and use nursing informatics concepts and information technology in all aspects of nursing practice, education, and research;
- Faculty and staff are leaders in the innovative use of nursing informatics (NI) and information technology (IT) in nursing practice, education, and research; and
- The University community understands the role of nursing informatics and information technology in nursing and health care.

**Mission:**

Enable students, faculty, and staff to exploit technology for communication, collaboration, and information management.

**Goals for 2006-2007**

1. Students will have access to state-of-the-science technology.
2. Faculty and staff will have access to adequate computing resources on their desks.
3. Faculty and staff will have access to state-of-the-science technology within the building.
4. Faculty, staff, and students will possess a basic set of skills in nursing informatics, information technology and computer use.
5. Faculty, staff, and students will be challenged to incorporate nursing informatics concepts and new technology into their professional and scholarly activities.
6. Accurate, timely technical consultation will be available to students, faculty, and staff.
7. Nursing informatics and information technology content will be integrated into the curricula.
8. Resources will be identified and allocated for acquisition, support, enhancement, maintenance, and protection of technology.
9. The University community will be informed of the role of nursing informatics and information technology in nursing and health care