

College of Pharmacy Information Technology Vision Plan 2007-2008

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College of Pharmacy
Information Technology Vision Plan
2007-2008

Summary of Requests

Note that each of these requests is detailed later in this document.

Programs

- 1. Continue life-cycle replacement of lab PCs; remodel 3.116\$20,000
- 2. Replace Classroom G4 Macs with Intel Macs\$5,000
- 3. Integrate Classroom Performance System (CPS)\$20,000
- 4. Classroom technology maintenance/upgrade (Departmental)\$20,000
- 5. Upgrade Video Production System to HD\$20,000
- 6. Classroom technology maintenance/upgrade (General Purpose)\$20,000

Infrastructure

- 7. Data network projects\$20,000

Total requested:.....\$125,000

Overview of Current Programs and Infrastructure

Vision/Mission/Goals of Unit

The UT College of Pharmacy Learning Resource Center is responsible for practically all academic information technology support within the College. Its mission statement, reproduced here from the College's website, is a simple one:

Mission

The mission of the Learning Resource Center of the College of Pharmacy is three-fold:

- to support and maintain a reliable and modern instructional technology infrastructure;
- to offer dependable, outstanding service to faculty, students and staff in specific, identified priority areas; and
- to provide professional training and consulting on using technology for productivity and education.

Services

The LRC makes its mission operational by supporting:

- live two-way and multi-point interactive video conferencing
- analog and digital delivery of recorded Pharmacy classes
- computer and audio/visual support for classes
- a student computer laboratory
- an instructional materials development facility
- a student media library
- a computer laboratory classroom
- the College website
- training and consulting in a variety of technical areas
- faculty and staff desktop and laptop computers

Infrastructure

The College of Pharmacy operates a full-time computer lab, a computer classroom (available until 3:00 as a General Purpose Classroom), and an audiovisual library that houses computers used for streaming video and general use as well as VCRs and DVD players:

<u>Room</u>	<u>OS</u>	<u>No. of Stations</u>
PHR 3.116	Win XP	32
PHR 2.116	Win XP	23
PHR 3.114	Mac OS X	8

Pharmacy computer lab 3.116 was remodeled during late summer 2006, increasing its capacity by about a third. This project is described in more detail later in this document.

The standard complement of software in both labs includes the Microsoft Office suite, web browsers (including specialized plug-ins for media types requested by faculty), A.D.A.M. software for studying anatomy, and a few other helpful utilities such as QuickTime. LabMan is used to manage the labs.

Keyserved software was expanded to include the entire Adobe Creative Suite CS. In addition to Photoshop and Acrobat, the suite included Illustrator, InDesign, and a few other useful utilities. This represents a significant enhancement to the keyserved offerings.

Finally, in an effort to increase value that ITAC returns to graduate students, funds were used to purchase ten JMP software licenses for Pharmacy statistical instruction. The SPSS campus license is being negotiated at the time of this writing; any improvement in both the price of the license and the ease in administering it would be greatly appreciated.

Technology Auditoriums and Classrooms

The College of Pharmacy had one of the first Technology Classrooms on the UT Austin Campus, PHR 3.106. In 1997, when it was significantly remodeled to bring it to its current configuration, it represented the state of the art in distance education and computer-based teaching facilities on campus. However, as with all such spaces, it must be aggressively maintained at a significant annual cost.

Until Fall of 2006, this room, which seats 136 and accommodates core courses, communicated with the UT System's Network Operations Center via high-quality, analog fiber transceivers. This method worked very adequately, and this capability is being maintained. However, due to the migration of the NOC's communication protocol from h.320 (dedicated fractional T1 lines) to h.323 (Ethernet), it became preferable for each room to have its own codec. To this end, a PolyCom VSX-8000 was purchased and installed in the video control room. The PolyCom will be designated as 3.106's primary communications link to the NOC and beyond, but any source available at the control room's routing system can be transmitted via this new codec. The enhanced flexibility will benefit all programs.

A second room, PHR 4.114, is a fully functional videoconferencing and computer-instruction space. Last year, we requested funds to purchase new cameras and architecturally update the space. This project was completed and is described elsewhere in this document.

A third room, PHR 2.208, is one of the inventory of videoconferencing spaces. This completes the College's complement of video facilities: One auditorium-style large room, one auditorium-style medium room, and a compact boardroom-style facility.

Other rooms have received and will continue to receive audiovisual upgrades in an effort to increase utilization while decreasing demands on staff time. The College placed campus-standard Technology Classroom Consoles in three PHR-located General Purpose Classrooms and has installed projectors and ancillary equipment, described below as PHR standard, in nearly all other instructional spaces.

Note that an additional classroom, 2.214, was added to the inventory of classrooms in Fall 2005. This room has an installed projector and dual-platform computer.

Classroom Inventory

<u>Room Number</u>	<u>Capacity</u>	<u>Installed Equipment effective Fall '04</u>	<u>Gen'l Purpose</u>
2.108	127	NS standard	Yes
2.110	133	NS standard	Yes
2.114	60	NS standard	Yes
2.116	45	PHR standard	~75%
2.208	20	PHR standard*	No
2.214	20	Data projector, dual-platform computer	No
3.106	136	Full tech. classroom, not NS standard*	No
3.108	30	PHR standard (teaching lab)	No
3.110	30	PHR standard (multipurpose lab/classrm)	No
3.114A	10	PHR standard	No
3.114B	10	PHR standard	No
3.114C	6	Plasma screen only	No
3.114D	10	PHR standard	No
4.114	52	PHR standard*	No

*equipped for videoconference

Networking and Associated Electronics

As discussed above, wireless Ethernet of the 802.11b standard was originally provided throughout the old and new Pharmacy buildings. This system was upgraded to 802.11g standard during 2005.

Total number of Ethernet ports maintained by the College -----	950
Number of static and dynamic IP addresses -----	542
Number of 100baseT switched ports-----	867

The number of ports will be expanded during 2006 as the 3.116 computer lab's seating capacity is expanded. This project is described in greater detail below.

Departmental Servers

The College operates four servers for primarily administrative uses:

- Mac Mini, OS X
FileMaker Pro Server
- Mac Mini, OS X
FileMaker Pro Unlimited - Instant Publishing.
- Mac Mini, OS X
FileMaker Pro Unlimited - Dedicated Publishing,
- Mac Mini, OS X
Sassafras Keyserver, Now-Up-To-Date

In addition, two video servers and a large RAID array are used to publish streaming video to our audiovisual library and feed the video caches installed in our San Antonio and El Paso sites:

- Mac Xserve, OS X Server
QuickTime/MPEG4 Streaming Server, Apache Web server
- Mac Xserve, OS X Server
Netinfo/WINS Server, Retrospect backup server using Xserve RAID

Finally, three servers are used for file storage and student lab management:

- Mac Xserve, OS X Server
LRC Fileserver, AFP/ FTP fileserver
- Dell PowerEdge 2400, Windows 2000 Server
Labman and Application server
- Dell PowerEdge 2650, Windows 2003 Server
Ghost, RevrDist, and file server

Portable Projectors and Notebook Computers

Although the College's has installed instructional technology in every dedicated classroom, we still maintain a complement of portable equipment for checkout by faculty and students for use in classroom spaces elsewhere not yet equipped with installed equipment.

We continue to provide laptops to students, faculty, and guests giving presentations. The provision of wireless Ethernet in the Pharmacy buildings has resulted in greater flexibility and is a boon for presenters using the internet, a growing trend. Recently, ITS Networking made it possible for departments to purchase or request at no charge additional PNA (public network) bandwidth for projects. The College has applied for and received an allocation for our work-study students who routinely log in under their EID for guest lecturers' use. Our student workers' need to log in and use the PNA should not, and does not, have an adverse effect on their student bandwidth quotas.

Current and Proposed Funding Sources

The LRC's funding has traditionally been chiefly derived from two student fee income streams. One is the College's Instructional Technology Fee. Although this fee has been combined with the flat-fee tuition, the level of support has not changed. Nearly 100% of the income from this fee is used to fund LRC personnel.

The second main source of income is ITAC funds. At present, ITAC funds virtually all non-human expenditures for IT: computers, video equipment for the College's distance education programs and local use, classroom audiovisual equipment, and so on.

The LRC also receives funding from the Dean's Office for some administrative salaries.

Best Practices

The College of Pharmacy continues to be among campus leaders in the utilization of streaming video. Because the College has an extensive distance education program involving three UT satellite locations, San Antonio, El Paso, and Pan American, whose coursework is chiefly taught using videoconferencing, this was a natural outgrowth of a long-standing practice of recording those video-taught lectures and making them available, at the faculty member's discretion, to students for their review. The College currently captures, encodes, and offers as streaming video fifteen to twenty hours per week of course material.

Of note is a recent new wrinkle in video streaming, podcasting. While the Thanksgiving 2005 Newsweek featured a story on this “revolutionary” method of delivering classwork, the College of Pharmacy began delivering near-podcasts of lecture material earlier in the Fall 2005 semester. The term ‘near-podcast’ deserves a definition.

True podcasting is a subscription service. Users subscribe to audio material that is delivered to iTunes or other audio management software, then transferred if desired to an iPod or other device. While this term has been applied to the simple downloading of audio files for end use similar to podcasting, it is not quite in accord with the accepted definition of this jargon. Thus, the downloading of audio files for student use by the College is called near-podcasting. We began experimentation with this activity in Fall 2005, upon request by a faculty member. The faculty member had been persistently asked for this service by one of her class members who has a long commute to school. And this is a perfect utilization of class-related audio files, be they podcasts, near-podcasts, and so on.

At the time of this writing, the LRC is waiting for the availability of new software for its encoder that will allow the streaming format for students to migrate from MPEG 4 to Flash. As part of the increased capability of the Flash platform, students will be able to request an audio file of any offered video stream on the fly.

Use of Previous Academic Year Allocations

Programs and Infrastructure

Programs

1. Continue life-cycle replacement of lab PCs; remodel 3.116----- \$80,000
This project was accomplished during the Summer-Fall 2006 intersession. Due to the smaller footprint of the newer PCs, especially the LCD monitors, the number of computers was increased by about a third.

2. Remodel/upgrade PHR 4.114----- \$30,000
This project was accomplished. This funding actually offset a funding shortage at the time of the remodeling.

3. Integrate Classroom Performance System (CPS) ----- \$20,000
This project has been deferred. The campus finally reached a consensus about the brand and model of CPS that is to be standard. However, the eInstruction software does not lend itself to summarizing the responses of four different geographic locations, and our distance learning requires this consolidation. It appears that another vendor, Turning Point, may have a solution. A pilot project with Turning Point hardware is planned for Spring 2007.

4. Classroom technology maintenance/upgrade (Departmental) ----- \$20,000
Having three videoconferencing rooms plus technology in virtually every instructional space results in a significant ongoing maintenance effort.

5. Equip two classrooms for self-service video recording (Gen'l Purpose)- \$36,500
This was a multi-College ITAC request led by the College of Communication. It was not funded.

6. Classroom technology maintenance/upgrade (General Purpose)----- \$20,000
The College has continued to maintain and enhance its technology classrooms.

7. Convert PHR 3.106 video to SDI (digital) video standard----- \$40,000
At the time of this writing, October 2006, preparations are being made to finally accomplish this project. Preferred equipment has been identified and a vendor is consulting on the wiring and routing issues. This project is planned for completion in the Fall-Spring intersession.

Infrastructure

8. Data network projects----- \$20,000

This funding was used to maintain and expand the Ethernet network, including the addition of ports for the remodeled computer lab. Some servers are to migrate to gigabit Ethernet this year.

9. Purchase new codec for PHR 3.106-----\$15,000

The College received this new equipment in Fall 2006 and it is in service. This will result in compliance with the UT System's migration to h.323 (Ethernet-based) videoconferencing and in greater flexibility in connecting our four sites.

Total requested: \$201,500

One-time Projects

The College of Pharmacy submitted a joint proposal with the College of Communication that was not funded. It is listed as number five above.

Needs and Proposed Use of Funds

Programs

1. Continue life-cycle replacement of lab PCs; remodel 3.116----- \$20,000
 While the actual term or period of the life-cycle replacement is being reconsidered, as has been discussed earlier, this item remains as a request and will continue to do so. While the need for ever-increasing amounts of computing power seems to be abating for the average desktop user, the evolution in storage technologies, for example, may cause a need for periodic replacement just as increased power has in the past. A good example of this is the flash drive. Not that long ago, computers had USB receptacles placed near the other input/output jacks, in the rear. Now, there is a need for easily reached USB receptacles to accommodate flash drives. Some day we may need to place iPod cradles with our laboratory computers as well. Given the computing power and connectivity now being marketed in cell phones, the user of the future may require simply an external monitor and keyboard to ameliorate some of that hardware's ergonomic shortcomings.

2. Replace Classroom G4 Macs with Intel Macs ----- \$5,000
 The new Intel-based Macintosh computers have made it possible to eliminate what has proven to be the most troublesome component in classroom technology podia: the KVM. A keyboard-video-mouse switcher would seem to be a fairly simple component (and in terms of function, it is). However, despite trying both a competitively-priced KVM from Iogear and a more highly-priced model from Rose Electronics, these devices continue to, for example, lose track of their USB devices (perhaps owing in part to the continued increasing sophistication of such devices). This request replaces seven Mac-only Macs with Intel models that can boot into either operating system. The use of these was piloted during 2006 and found to be exactly as promised, a genuine dual-platform computer with good performance in each operating system.

3. Integrate Classroom Performance System (CPS) ----- \$20,000
 This project was deferred last year because the campus had yet to settle on a standard. In the mean time, eInstruction's hardware was chosen as that standard, but could not be adopted by Pharmacy because of our need to be able to survey four sites, a capability not available with eInstruction's system. In the mean time, it appears that TurningPoint may offer a viable, multi-site option although key software components are in beta stage at the time of this writing. Nevertheless, the College plans to purchase hardware to pilot this capability in Spring 2007.

4. Classroom technology maintenance/upgrade (Departmental) ----- \$20,000
 Having three videoconferencing rooms plus technology in virtually every instructional space results in a significant maintenance effort.

5. Upgrade Video Production System to HD ----- \$20,000

With the advent of high-definition recording and editing at a price that educational institutions can afford, it is time to upgrade our field equipment to the new HDV video standard. This request also includes an upgrade to our Final Cut Pro-based editing system, including the much-increased storage requirements.

6. Classroom technology maintenance/upgrade (General Purpose)----- \$20,000

The College has continued to maintain and enhance its technology classrooms. The three General Purpose classrooms within the Pharmacy buildings are maintained on contract by Liberal Arts. They are heavily scheduled and burn a lot of projector lamps, wireless microphone batteries, and so on. Furthermore, they are aging and components such as wireless microphone systems are failing.

Infrastructure

7. Data network projects----- \$20,000

While the College has invested recently in new gateway switches and other network upgrades, we wish to invest in a few gigabit pathways for critical high-bandwidth projects such as streaming video. Also, more ports will be required for the 3.116 lab remodel/expansion.

Total requested: \$125,000

One-time Projects

The College of Pharmacy met with staff from the Colleges of Communication and Liberal Arts to discuss one-time projects.