

2001-2002 College of Pharmacy Vision Plan

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Executive Summary

This Vision Plan marks the tenth anniversary of such efforts at the College of Pharmacy. In 1991, two faculty members proposed the creation of four new computing facilities. The proposal was funded, and the College began its integration of computer technology into administrative, academic, and research functions.

Two factors strongly influence funding and utilization of computer resources for the College of Pharmacy. One is that the College has one of the smallest student populations on campus, limiting the amount of ITAC fees collected from the student body. In this regard, the increase in the minimum award has had a significant effect on funding for recurring expenses such as maintenance and supplies.

The second factor is the operation of two College of Pharmacy sites. In addition to the Austin campus, the UT Austin College of Pharmacy places students and faculty in San Antonio on the campus of the UT Health Sciences Center. The academic governance and funding for the San Antonio program originate in Austin. For this reason, distant students and faculty, and parallel computer and distance education facilities loom large in technological needs of the College. Furthermore, the addition of remote coursework is planned for the campus of UT El Paso in Spring of 2001 and eventually at UT Pan American. Few UT Austin colleges are as active in distance learning as the College of Pharmacy.

Because of the College's involvement in distance learning, faculty have embraced instructional technology with enthusiasm. While many faculty teach traditionally, using chalkboard and overhead transparency projectors, many others have incorporated PowerPoint presentations into virtually all classes. PowerPoint is an excellent tool for the typical outline-style content reinforcement for which it is employed. However, it is also a very capable container for digital video, graphics, sound files, and the like. College faculty use this capability because Pharmacy content—which incorporates chemistry, mathematics, physical assessment, patient care, and many other facets—demands it.

This Vision Plan discusses ongoing support of existing facilities as well as increased technology and support for both College and general purpose classrooms. It also requests funding for an ambitious plan for conversion of an existing analog videotape-based to digital, web- and CD-based technology. The addition of web- (IP-based) videoconferencing technology to augment the T1-based videoconferencing capability already in existence is another major feature of this plan.

College Vision, Goals, and Objectives, Recent Progress towards Realizing Goals

The vision for the immediate future for instructional and information technology is one that blends the utilization of ITAC and other fee-based funds with the upcoming relocation and renovation of the College's Learning Resource Center Library. With the expectation of moving to a modern facility, the College will begin its transition from analog video distribution to digital video streaming and distribution via Video-CD and, ultimately, DVD.

Thanks in part to last year's ITAC allocations, the College has purchased hardware and software to create the production infrastructure that will make this transition possible. A nonlinear video editing Macintosh has been purchased and fitted with a full complement of removable and static storage, MPEG capture, Video-CD authoring software, and high-speed CD-ROM burner for creating the Video-CDs.

The College has also moved to update its classroom technology support. A major upgrade project is planned for the College's main technology classroom. The College's secondary distance education and technology classroom, 4.114, is scheduled for installation of an IP-based videoconferencing system whose ancillary equipment (such as cameras and microphones) can also be used with the UT System's existing T1 infrastructure. A Public Address system is being installed in one general purpose classroom, to be augmented by a data projector. Other classrooms are scheduled to receive permanently installed data projectors and sound systems either with ITAC funds or in conjunction with the remodeling project mentioned above.

In addition, the College will continue to maintain these baseline commitments to all computer and IT users:

- A robust and capable network; desktop computers that meet users' needs for power and storage, replaced using life-cycle methodology;
- Network-based resources to complement desktop hardware;
- Classroom instructional technology that meets or exceeds face-to-face teaching and distance learning requirements;
- Training and tools to facilitate the full utilization of available hardware and software.

Facilities and Staffing, other Infrastructure

The College of Pharmacy technology facilities include an SGI computer laboratory, two microcomputer laboratories, an instructional development laboratory, a media library, two distance learning classrooms, a multimedia storage facility, and a television control room. Additionally, the Learning Resource Center houses seven staff in its administrative facilities. The technology staff of the Learning Resource Center include:

Manager – Directs the Learning Resource Center

Senior Systems Analyst – Network and microcomputers

Senior Systems Analyst – Web, multimedia, and instructional technology development and consulting

Development Researcher – Technology fundraising

Administrative Associate – Media library and office management

Systems Analyst – Computer and audiovisual systems support

RTV IV – Instructional television coordinator

The College also supports a Senior Systems Analyst who is responsible for administrative computing. Work-study students also augment the work of the professional staff as needed.

Another distance learning classroom and computer lab is located at the McDermott Building at UTHSCSA. The distance learning classroom is staffed by the Center for Distance Learning and Telehealth. The facility is used by other departments and programs when not being used by The UT College of Pharmacy. The Division of Pharmacotherapy covers most of the cost for equipment maintenance, repair and replacement. The student computer laboratory is maintained on a part-time basis by an Administrative Assistant in the Division of Pharmacotherapy who received special training. The cost of maintaining the facility is shared by the Division of Pharmacotherapy and the Learning Resource Center.

Proposed Projects/Titles – Academic

1. Conversion to digital distribution of video-based content.

The College has purchased the production infrastructure hard- and software to capture its video resources digitally, both as MPEG files and as asymmetrically compressed QuickTime Sorenson files. The former will be available to users of the LRC library in Austin, San Antonio, and El Paso, as well as those with high bandwidth internet service via cable modem or DSL. The latter will be available to clients with dial-in internet service. The principal audience for this project is students enrolled in College courses.

While the College has created the production infrastructure, the delivery infrastructure remains to be funded and made operational. At present, because of the lack of a centralized MPEG-capable server, and the structure of the campus ethernet backbone, serving the high-bandwidth material can best be accomplished using streaming servers located at the College of Pharmacy in combination with a high-bandwidth connection to the UT Austin ethernet backbone.

Because the College of Pharmacy operates a satellite campus in San Antonio, and will soon add UT El Paso, the streaming server presence needs to be duplicated at these sites. (A further site in the Rio Grande Valley at UT Pan American is planned for the future as well.)

This proposal calls for four Macintosh G4 Streaming Servers, four RAID arrays, and a single tape backup unit to be located in Austin. The servers will mirror each other whenever new content is added. In addition, a provision is made for MPEG hardware for older computers.

Note that remodeling funds will be used to construct the high-bandwidth network within the new LRC library.

Cost:\$135,000
Audience:Students
Funding:ITAC/Student Fees/Remodeling Funds

2. IP-based videoconferencing capability for Austin and San Antonio campuses. Because the College of Pharmacy operates in so many geographically separated sites, the delivery and coordination of curriculum is a constant challenge. While the College does have two distance education classrooms, for smaller classes and administrative functions a boardroom, rather than classroom style, videoconferencing unit is required. This project seeks to establish such a facility in Austin and San Antonio. The PolyCom unit that is anticipated for delivery in December, 2000 will be essentially duplicated in a conference room in Austin and in San Antonio, giving the College a vital 'second channel' of videoconferencing in both its primary administrative location and its primary remote teaching location.

This proposal includes the cost of hardware as well as fast ethernet wiring to the sites.

Cost:\$50,000

Audience:Students, Faculty

Funding:ITAC/Student Fees

3. Audiovisual upgrade of general purpose and departmental classrooms. Because the College's faculty have had to teach via two-way video, they are relatively intensive users of PowerPoint projection and related technology-based teaching. At present, there is only one true technology classroom available to Pharmacy faculty, and it is scheduled virtually all the time. This proposal would add data and video projection, and related control equipment, to three general purpose classrooms, in addition to five departmental classrooms. Note that the College is planning in December 2000 to do a similar upgrade to a large general purpose classroom with existing funds, and renovation funds for a proposed remodeling of some classrooms will also be applied to this project as available. This proposal includes the cost of hardware as well as fast ethernet wiring to the sites.

Cost:\$120,000

Audience:Students, Faculty

Funding:ITAC/Student Fees/Remodeling Funds

4. Upgrade ethernet network.

Because of the ever-increasing dependence upon ethernet for administrative functions and the specification of gigabit ethernet as standard for Macintosh computers (the preferred platform for administrative staff), it is important to upgrade ethernet speed to at least 100 megabits to each station, and where required, gigabit speed. The College's network is five years old; current hardware is out-of-date and needs to be made current.

Cost:\$130,000

Audience:Faculty, Administration

Funding:ITAC/Student Fees/College Funds

Proposed Projects/Titles – Administrative, Research

1. File Server for Administrative Use
Currently, there is no central file server for the use of administrative personnel. Creation of one would enhance productivity by work groups as well as backup of critical files.
Cost:\$10,000
Audience:Faculty, Administration
Funding:College Funds
2. Database Server
This project would create a database with web interface for tracking preceptors across the state.
Cost:\$10,000
Audience:Faculty, Administration
Funding:College Funds

College Instructional Technology Funding Overview and Life Cycle Methodology

The College has embarked upon a three year life cycle method for student (ITAC and student fee funded) computers. Adequate funding is in place to maintain this schedule.

Researchers typically fund their own computer purchases based upon the funding they receive for their studies. College researchers are well funded as a rule and have been able to meet their needs with this case-by-case methodology of supply and replacement. In some cases, College funds have augmented research funds when necessary.

Administration of the College has committed to creating a life cycle methodology for its technology, but this effort is in its early stages. Because in many cases administrative technology demands are not as sophisticated as student and research computing, the utilization of a four-year rather than three-year cycle is being considered.

Appendices:

1. Total Information Technology Summary Expenditures Report for 1999-2000 Funds

Recurring Funds:

The College of Pharmacy received \$25,837 in recurring funds. A balance of \$19,355.61 was carried over from 1998-1999 funds to total \$45,192.61. \$6,505.16 in recurring funds were used to fund various small expenses and projects, including supplies for a new plotter for presentation of student research at meetings and conferences, maintenance of the computer student lab server, and software purchases. A balance of \$38,687.45 was carried over to 2001-2002.

Project Allocation Funds:

The College received \$110,000 in project allocation funds. A balance of 1,577.00 was carried over from 1998-1999 to total \$111,577.00. \$41,017.06 in project funds was spent; \$70,559.94 remained at the end of the academic year. These funds were used chiefly to upgrade all of the microcomputers in student labs and to purchase two new data projectors for the College's technology classroom.

The College has carried forward a balance of \$36,687.45 in recurring funds and \$70,559.94 in project funds. The large balance forward is due to the absence of a Learning Resource Center Manager for most of 1999-2000. Several large projects were deferred during that period pending the hiring of a new manager. These projects are now being carried forward. Included in these major projects are incremental upgrades to the building's ethernet system, hardware for both general purpose and departmental classrooms, and a badly needed major upgrade to the hardware and software that are the core of the College's main technology classroom.

Description of each project funded in 99-00, status, and total amount expended:

Instructional Technology Endowment\$1,000,000
 Status.....not funded
 Total expended\$0

Evaluation:

This remains under consideration as a long-term goal. The College has a new development officer and LRC staff have begun to work with her on funding opportunities for long-term support for the LRC and its mission.

Classroom Enhancements.....\$200,000
 Status.....in progress
 Total expended\$82,284.88

Evaluation:

Two 3,000-lumen data projectors were purchased late in the summer and the College accepted delivery after the end of this fiscal reporting period. A public address system has been installed in a general purpose classroom and the installation of more data projectors is planned for the December intersession. The microcomputers in the computer lab classroom were also replaced in accordance with the life-cycle model.

CoP Network Upgrade\$75,000
 Status.....in progress
 Total expended\$103.00

Evaluation:

The only College computing devices not on switched 100 megabit ethernet are computers operated by administrative support personnel and printers, thereby fulfilling the essence of this project. College staff have recently met with William Green, campus network guru, to plan maintenance and updating projects for the near future. Full conversion of the remaining computing devices to 100 megabit switched status is expected within the next year. Furthermore, key LRC staff will likely be added to a gigabit ethernet network expected for the video server mentioned above.

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Digital Video Editing Equipment.....\$15,000
Status..... completed
Total expended.....\$19,285.00

Evaluation:

In preparation for the conversion from analog to digital video distribution described in this Vision Plan, the production infrastructure has been completed. Digital video acquisition, editing, and encoding for delivery are in pilot stages at the time of this writing. The College will make the transition to primarily digital delivery within a year.

2. College Infrastructure Summary; Network Status; Technology Classroom Inventory

Infrastructure Summary

The College operates two computer laboratories for students, both equipped with Dell Optiplex Pentium II computers. In addition, faculty, staff, and students may work on graphics and other multimedia content in the Instructional Development Laboratory (IDL). The IDL is scheduled for relocation and renovation as part of the third floor remodeling project expected in Summer, 2001.

Network Status

Every classroom, office, and research laboratory in the College is wired for ethernet. Enough distribution capacity has been added to the College's ethernet network to enable all computing devices except for some printers and administrative support personnel computers to communicate via 100 megabit switched ethernet. Additional equipment is expected as part of the College's third floor remodeling project to bring the last few remaining devices up to 100 megabit speed. Furthermore, the College will create a small network at gigabit speed to enable the large file transfers from production to distribution computers as part of the conversion to digital video distribution, discussed elsewhere in this plan.

Technology Classroom Inventory

The College has two Technology Classrooms. One, 3.106, is under amx/panja control and meets all of the criteria for Technology Classrooms except for control screens, which were created before a standard existed. It is also a distance education classroom, equipped with three three-chip cameras, an overhead camera, and extensive microphone mixing.

The other Technology Classroom, 4.114, is scheduled for updating within the next two years. An ethernet-based videoconferencing system will be installed during the December intersession. Microphone mixing equipment and a data projector will be installed to augment the videoconferencing system. Whether or not it is necessary to continue upgrading the classroom to eventually adhere to the ACES-style Technology Classroom standard will depend upon faculty and staff experience in the room and the availability of funds.