

1999-2000 Vision Plan

College of Liberal Arts

Executive Summary

The 1999-2000 Vision Plan for the College of Liberal Arts addresses the disparate information and instructional technology needs of The University's largest college. The principal objective of IT planning in the College of Liberal Arts is to ensure that students, faculty, and staff have access to technology and digital information that foster excellence and innovation.

Although its boundaries – physical and intellectual – are broad and present unique challenges of scale and scope, the College continues to search for and identify opportunities to exploit the synergies and economies offered by current information technology. An important goal of the College is not only to identify such solutions but to share them with the larger University community.

Although College's Vision Plan can be viewed as an unstructured amalgamation of departmental requests, a couple of themes – one in particular -- emerge from this year's requests that will benefit from coordination. The most obvious beneficiary of such attention is the ubiquitous request for digital library technology. Not only does this present an opportunity to exploit economies of scale in hardware (assuming a very robust campus network infrastructure) but it also highlights the need for developing campus wide standards for cataloging digital information, i.e., developing, in the terminology of the industry, a common "meta" language. The College hopes that the ITCC will explore the possibility of initiating a study of this issue.

A second, incipient theme emerging from departmental plans concerns life cycle funding. This year, for the first time, departments have begun to address explicitly the issue of life-cycle funding in their Vision Plans. The disparity between the IT resources currently available for students and faculty (and staff) and the lack of systematic planning for dealing with this disparity are the most important access issues confronting the College. Current sources of IT funding offer no solution to this problem.

The 1999-2000 ITAC funding request from the College of Liberal Arts totals \$1,025,000. This request does not, of course address all the IT needs of the College. Nonetheless, ITAC funding has been and, we are confident, will continue to be the genesis of innovation that has become the hallmark of instructional technology in Liberal Arts.

Recent Progress

Two projects initiated this past year warrant particular attention. The first centers on the arrival of a production video streaming server in Batts Hall, under the direction of Instructional Technology Services (ITS). The server, a SGI Origin 200 using SGI's MediaBase software, was installed this past summer and was in production in time for the beginning of the Fall semester. The first major use of this server was to make available twenty-six hours of supplemental video used in lower division Spanish language instruction (<http://www2.lamc.utexas.edu/destinos/>). This solution offers ITS a significant cost savings and greatly improves student access to instructional material.

The second project of note is the installation of production level multi-user NT by the Liberal Arts Computer Instruction Laboratory (LACIL). This system allows users access to the latest Microsoft desktop and operating system software, regardless of what computer or operating system they are using as clients (e.g., Mac, Unix, DOS, etc.). Furthermore, users can access this software and their files from anywhere on or off campus. This system is in production and is used extensively for daily computer chores by faculty, graduate students, and staff. It is also being used for classes in the 30 seat X-terminal classroom in Burdine 124. The latter use of multi-user NT was sufficiently unique that Compaq Computer lent LACIL a multi-processor server to help benchmark the unique server loads created by a classroom environment (i.e., simultaneous and identical tasks). Similar systems have been funded and will be installed this year in the Economics Department and for the Air Force ROTC, the latter as an explicit solution for staff computing obsolescence.

Both of these projects highlight the exploitation of cost saving technologies and the growing (re)acceptance of server-based computing solutions. The College of Liberal Arts will continue to search for and implement similar effective technology solutions.

Facilities, Staffing, and Infrastructure

The core elements of the vision for the College has changed: Access, Infrastructure, Content, and Human Resources.

Access. Student and faculty access to appropriate technology and digital information is essential. As noted previously, the most pressing access issue confronting the College is that of life-cycle funding, the technological gap between students and faculty (and staff) is to the point of seriously compromising routine communication. With the imminent release of Microsoft's latest version of Office and Windows, and all the hardware resources they command, the communication breakdown may become critical as the ability to share documents among students, faculty, and staff erodes even further. While University and College IT fees allow questions about student access to be "solved" on an annual basis -- the continued development and funding of department computer classrooms and labs ensure that required specialized computing resources are and will be readily available to students -- no such mechanism is in place to support faculty and, in particular, staff.

Infrastructure. The College is committed to the maintenance of a robust network environment across campus and beyond. The ability to deliver reliable and timely information to classrooms, dorm rooms, faculty offices, and off campus is obviously an essential component of access. The College will continue an ongoing process of upgrading local and wide area network resources. The goal of the College is to move most departments to a switched ethernet environment (10Mb to the desktop and 100Mb to LAN servers) over the next two years. The College remains concerned about the development of University policy with respect to the wiring of General Purpose classrooms for ethernet access to UTnet. Many of the initiatives under development by Liberal Arts faculty are predicated on access to real-time network-based information in the classroom. These initiatives will be undermined without a uniform policy regarding maintenance of and access to classroom ethernet connections across campus. The College is encouraged by recent progress being made by the ITCC in this regard. Similarly, the College is encouraged by the recent decision to proceed with a Network Master Plan.

Content. The College has a hard earned reputation for innovative use of information and instructional technology and this past year has taken steps to further institutionalize its role as an innovator. This Fall (1998), the College created, from the ashes of the erstwhile Liberal Arts Media Center, the Liberal Arts Instructional Technology Services (ITS) unit (<http://www.lamc.utexas.edu/>), a group staffed and equipped to provide soup to nuts support for network-delivered audio and video materials, web based course materials,

and specialized course-related computer applications. The College is extremely optimistic about the positive impact ITS will have on the use of instructional technology.

Human Resources. Support staff costs continue to mount and challenge for the largest single IT expenditure facing the College. The College of Liberal Arts took a significant step last year to improve the management of computer staff across the College by signing a management agreement with ACITS, under which most support staff now report to ACITS and benefit from the cross training and career opportunities they provide. The first year reviews of this management agreement were mostly positive, particularly from many of the smaller units that had little or no support prior to this contract with ACITS. The College and ACITS continue to refine the specifics of their contract (e.g., more emphasis on departmental web support was added for the second year's contract).

Academic Instructional Projects

The following projects were submitted to the Dean's Office following a general call for proposals. Only those projects that fall within the ITAC funding guidelines are included.

Instructional Technology Services

Funding Request: \$227,000

Project Title: Liberal Arts Hypermedia System: A Digital Library for Today

Summary: The Liberal Arts Hypermedia System is the future of data organization and access for the college's faculty. This system allows faculty to browse an electronic library of multimedia such as digitized video and audio, pictures and photos, QuickTimeVR files, and interactive multimedia objects to create dynamic, multi-sensory (i.e. sight and sound) presentations and lectures. The system will encompass four distinct elements that will enable faculty to originate, edit, store, search, and retrieve objects from a digital library.

Hypermedia System Infrastructure

The infrastructure is a critical element in the design of Hypermedia Systems (HSs). For digital libraries to operate efficiently and effectively, a high bandwidth network between the end users and the multimedia servers is required. This backbone must support a transfer protocol that will enable software application to move the multimedia objects to and from the multimedia servers. In addition, these software applications must be able to incorporate a multitude of multimedia objects into a unified presentation vehicle that can be accessed from any location wired into the backbone.

Digital Library

A digital library can be defined as an electronic storage and retrieval system for multimedia files and references that is logically organized and finely searchable. The multimedia files will consist of full-motion video, audio files, still pictures, databases, slide shows, power point presentations, word documents, and any type of media that is stored and maintained by the college. The multimedia objects will be either physically stored on the server or be dynamic references to media stored on other information servers. This means that part of the library will reside on the physical premises of the college and some of the data will be pointed to electronically. For example, a picture of Italy can be accessed by including an object in the digital library that calls a server, which can be anywhere in the world, containing a picture of Italy.

Media stored outside of the Liberal Arts HS should be of quality equal to or better than could be produced internally by the LATIS staff.

Digital Librarian

The fact that the library's assets must be organized and updated implies the need of a digital librarian to maintain and update the library. This person will be responsible for the ongoing improvement of the library's services to faculty and continued research into organization, operation, and upgrading of the HS. Part-time production assistants will help the Librarian to capture the digital multimedia as projects require.

User Interface

A robust user interface will provide access to the digital library for the creation, storage, fine-searching, and retrieval of the multimedia objects in the digital library. In addition it will aid in the assembly of the assets into dynamic, interactive, and stimulating lectures and presentations. The user interface will be comprised of dedicated workstations and portable classroom equipment, which is detailed later in the document.

Implementing the Liberal Arts HS

The Liberal Arts HS can be implemented using the existing Ethernet infrastructure and buying and developing the necessary multimedia servers, graphics computer stations, media capture equipment, and software interface. The services of a digital librarian must be acquired at this stage to oversee and direct the creation of the HS.

The following is list of equipment, by category, needed to begin the implementation of the digital library:

Servers

- 2 dual processor servers with a combined storage capacity of 300 gigabytes.
- Automated tape backup systems for entire local digital library collection.

[Estimated cost \$40,000]

Graphics Stations

- 2 Apple G3/333 MHz with dual monitor configuration, Firewire cards, Adobe Photoshop, Adobe AfterEffects, Adobe Illustrator, Adobe Premier, Sound Edit16, Deck II, Debabelizer, Dreamweaver, Flash 3, QuickTime Pro, Media Cleaner Pro, Fireworks, Adobe Pagemaker, Adobe Acrobat, and other specialized software as needed.
- 1 PC compatible version of the workstation above.

[Estimated cost \$25,000]

Multimedia Capture Equipment

- 2 DV Format digital camera, 2 DV Format Edit Decks, 4 megapixel digital still camera, 4 tripods, 2 Kiadan camera mounts (for QuickTimeVR panoramas and object movies)
- 3 flatbed scanners, and other scanning equipment as needed

[Estimated cost \$27,000]

Human Resources

- Full-time digital librarian to maintain media servers and organize digital library.
- Two part-time production assistants to assist in media capture and portable classroom equipment maintenance as needed.

[Estimated cost \$80,000]

Portable Classroom Equipment

- 5 Apple G3 laptops with Adobe Photoshop, Adobe Illustrator, Adobe AfterEffects, QuickTime Pro, Microsoft Office 98, and any other specialized software needed.
- 5 PC compatible laptops with the same software suite as listed for the Apple laptops plus any additional specialized software needed.

[Estimated cost \$55,000]

French and Italian

Funding Request: \$32,500

Project Title: French and Italian Digital Library (Data Base of Sounds, Images, and Video)

Summary: We propose the creation of the following on-line data bases:

- multimedia tutorials to teach the language: phonetic units and grammar modules to be used at all levels of instruction (currently under construction: Grammaire de l’Absurde)
- images (art, culture, geography)
- audio files (pronunciation tutorials, interviews, music, conversations)
- video clips (clips of French, Canadian, Italian television, news broadcasts, films, pedagogical videos)
- We think that creation of data bases should be our first priority because they will prove useful for several reasons:
 - curricular flexibility, i.e. they are useful at all levels of the curriculum
 - pedagogical flexibility, i.e. they can be used in the lab, in the classroom, and for home study (we propose to use the databases in wired classrooms using Powerbooks and Computer projectors— see budget)
 - logistical flexibility, i.e. they can be easily accessed and updated.

Space & Equipment:

Item	Cost per item	Cost
5 Macintosh G3s	\$2, 117	\$10,585
3 G3 Powerbooks	\$2, 000	\$6,000
2 Computer projectors	\$4,425	\$8,850
Software	\$4,000	4,000
Scanner & slide adaptor	\$3,000	\$3,000
TOTAL		\$32,435

Funding Request: \$110,000
Project Title: Instructional Technology
Description: We request funding this year for a three-part project to acquire digital course materials, especially visual images, and to use them effectively in the classroom. One part is the purchase of a high-end UNIX computer for sophisticated 3D modeling and rendering of ancient monuments, and to host the video and audio projects now under production by several faculty members, to be served over the Web. The second expands and improves the digital projection systems in Waggener Hall for more convenient and innovative classroom use. The third is a continuation of the digitization of the Classics department's image collection and making it available via a networked database.

Space & Equipment: *Part I: UNIX Workstation/Server*

We request funding for a high-end UNIX SGI Octane workstation, monitor, additional RAM, DAT tape backup, and audio/video and 3D modeling and rendering software, including VRML 2. This will enable us to provide students and faculty extremely fast and reliable access to video and audio course materials. It will also provide the computing power to perform accurate reconstructions of ancient monuments; e.g., temple plans to study the development of ancient religious buildings and their use of space or temple moldings as a marker of the evolution of Italian architecture.

Part II: Permanent Projection Systems.

Funding for Year One allowed us to install a permanent projector in on large lecture hall in WAG. We now request funding to purchase and install ceiling-mounted projectors hard-wired to permanent computer consoles with digital document cameras in two additional classrooms. Permanent projection systems greatly enhance our ability to bring into the classroom both departmental multimedia resources (see, for instance, parts I and III), and material available through the internet. The new Ancient History and Classical Civilizations major is proving fertile ground for the development of innovative course material for which better projection facilities are crucial. Archaeology courses incorporate images of maps, plans and artifacts from the departmental collection, and from Web pages of excavation and survey projects and museums. Papyrology and Epigraphy courses can allow students to examine primary materials under ideal conditions. Religious Studies and Classics will use three-dimensional images of temple plans to study the development of Italian architectural style and of Roman, Jewish and early Christian religious buildings. The Philosophy Department wants

to use these facilities in Logic courses.

Part III: Digital Database of Visual Resources Collection

We are also in Year Two of project to digitize the Classics Visual Resources Collection of slides and plans, create a searchable database, and prepare course materials. Some funds (ca. 5/8 of our request) were awarded for this project in Vision 1998-1999, and (as we noted then) additional funding is needed now for personnel costs as well as for hardware and software upgrades. Digitizing is done by trained students under professional supervision. In addition to the SGI workstation (part I) equipment needs include a digital camera, proper computer tables to accommodate the scanning workstations, a small computer at which users can perform database searches and selection of images for their course projects, cabling and additional ethernet connections. We also intend to purchase updated software and several high-quality collections of images of ancient art and architecture to supplement the current collection. The most important component of Year 2 is the provision of funds for skilled personnel to digitize images, enter information into the database, and assist faculty in incorporating the images into course materials.

Rhetoric and Composition

Funding Request: \$150,000

Project Title: Computer Writing and Research Lab

Summary: Revise and significantly expand Web-based tools and facilities to support E306 Rhetoric and Composition.

Anthropology

Funding Request: \$140,531

Project Title: Multimedia in Anthropology

Summary:

- Web-based Course Support in Anthropology (\$49,520)
- Mobile Computer Presentation Platform to be used by all classes in Anthropology that use multimedia or computer-based instructional materials. (\$11,600)

This proposal asks for continued support for computer-based instructional materials in Physical Anthropology, particularly for project titled, "Virtual Skeletons in Three Dimensions: The Digital Library as a Platform for Studying Anatomical Form and Function," a project that has also been supported by the NSF. (\$32,644)

- Continued support is also requested for the Linguistic Anthropology laboratory. Since 1989 this facility has played an creative role in the use of new computer-based technologies in sound analysis and linguistic anthropology. (\$13,620)
- Building on a grant from Bellsouth, Linguistic Anthropologist Elizabeth Keating proposes to use the Linguistic Anthropology lab, and several courses, to explore "Impacts Of New Computer Technologies On Human Communication Patterns: Deaf-Hearing Interactions in Video Telephonic Communication." (\$8,882)
- Professor Kamala Visweswaran is collaborating with a colleague at George Mason University on a course titled "Asian Women in Diaspora" and proposes an innovative course with will use the web and other means for the students to interact with each other and to build and share and archive of oral histories (in HTML and Real Audio) of Asian American women. (\$5,625)
- Web Based Simulation Modules for Introduction to Archaeology Classes --Three faculty member who teach Introduction to Archaeology have proposed to combine efforts to build a bank of web-based exercises in this course. This web resource will be part of a growing site now called the "Archaeology Archive," which includes other course material and which has been funded through Project Quest and Macromedia. (\$18,640)

English

(see attached)

Psychology

Funding Request: \$96,000

Project Title: Facilities Upgrade and Expansion

Summary: This proposal is comprised of a series of small upgrade and expansion projects which will allow us to continue our computer based operations in an efficient and reliable manner. They do not have the unified goal of providing something new and innovative, but simply keeping existing services matched to an increasing demand in capacity.

Space & Equipment:

<i>Description</i>	<i>cost</i>
Psy418 Lecturer's Displays	\$ 34k
Portable Classroom Projector	\$ 14k
Secure Web Server	\$ 16k
Support Systems	\$ 22k
Ethernet backbone switch ports (x48)	\$ 10k
Total	\$ 96,000

American Studies

Funding Request: \$2,200

Project Title: Production & Distribution of Images.

Summary: As an interdisciplinary department engaged in studying the various cultures of the United States, both in the present and in the past, we find ourselves increasingly involved with the use of images in both teaching and research. At present, we have thousands of images on 35mm slides. We need to be able to convert these to digital format for classroom projection using digital equipment, for digital projection at conferences, and, most importantly, for course web sites accessible to students and personal web sites for presentation of research. Already equipped with a CD-ROM-burner for making images eminently portable, we need a high-resolution 35mm scanner for slides and negatives, and a high-resolution digital camera for contemporary fieldwork.

Space & Equipment: Nikon CoolScan III	\$999.00
Olympus D-600L	\$899.00
Incidentals	\$300.00

No additional space required

Germanic Studies

Funding Request: \$80,100

Project Title: Digital Library

Summary: Create a Digital Library of materials used in classroom teaching will add to what has been accomplished during the first year and begin to include the important category of streamed video to the list of materials digitized.

Space & Equipment: Database, multimedia capable (including software, Java and development tools)	\$14,500
Network CD Server	\$5,000
Scanners – 2 @ 1,000	\$2,000
Workstations – 2 @ 2,500	\$5,000
Renovation of E. P. Schoch Lab.	\$20,000
Total Equipment and Renovation	\$46,500
Staffing Requirements (1999-2000)	\$33, 591

Government

Funding Request: \$5,500

Project Title: Internet as Course Supplement

Summary: Maintain and add features to an existing Web site created to enhance Politics courses with reference exercises. Exploit assets of LACIL's Windows NT system and related file services to multiply student convenience and benefits. Add use of LACIL's classroom for group and demonstrations. Write clear instructions students afterwards can follow on their own. Acquire a work station and accessories to economize instructor input time.

Space & Equipment: Dell Precision Workstation 410	\$5000
Iomega ZIP Drive	\$ 125
Astra 1220 Series Scanner	\$ 200