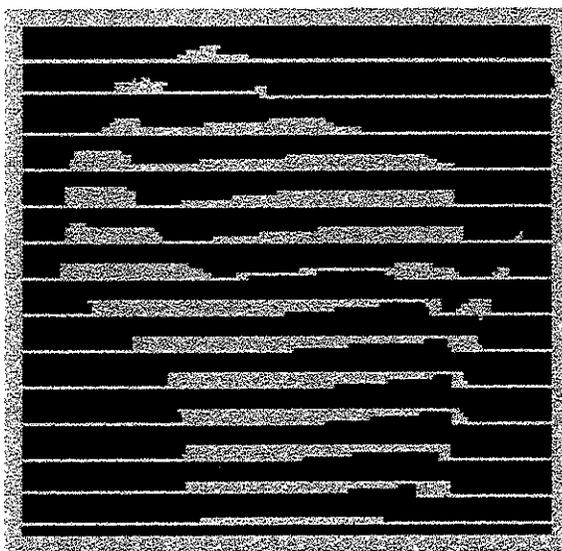


# 1997 University of Wisconsin System Information Technology Plan

## Education for the 21<sup>st</sup> Century



**Office of Learning and Information Technology**  
University of Wisconsin System Administration  
Madison, Wisconsin

**The University of Wisconsin System**

**October 1997**

**The 1997 UW System Information Technology Plan**

**was prepared by:**

**The UW System Council of Chief Information Officers**

**Ed Meachen, chair, UW System Administration**

**David Hart, UW-Eau Claire**

**Kathy Pletcher, UW-Green Bay**

**Dale Montgomery, UW-La Crosse**

**Tad Pinkerton, UW-Madison**

**Joe Douglas, UW-Milwaukee**

**John Berens, UW-Oshkosh**

**Barbara Baruth, UW-Parkside**

**Paul Moriarty, UW-Platteville**

**Gary Smith, UW-River Falls**

**Bruce Staal, UW-Stevens Point**

**Joe Brown, UW-Stout**

**Bob Carmack, UW-Superior**

**Hsi-ping Shao, UW-Whitewater**

**Mary Grant, UW Colleges**

**Ron Kraemer, UW-Extension**

**Nancy Crabb, UW System Administration**

**Staff: Bob Jokisch, UW System Administration**

**University of Wisconsin System Administration**

**Office of Learning and Information Technology**

**1554 Van Hise Hall, 1220 Linden Drive**

**Madison, Wisconsin 53706**

**Telephone: (608) 265-3095**

# Table of Contents

Executive Summary	1
Introduction	3
I. Building Blocks of the 1997 UW System Information Technology Plan	4
II. Education for the 21 <sup>st</sup> Century	6
III. 1996-97 IT Accomplishments	26
IV. 1997-98 Projects Targeted to Building “Education for the 21 <sup>st</sup> Century”	28
Appendix 1: 1996 Systemwide IT Plan	35
Appendix 2: Report of the Vice Chancellors’ Working Group on Academic Programs and Instructional Technology Planning	42
Appendix 3: Systemwide Conference on “Leveraging the System”	48
Appendix 4: 1997 IT Plans of UW System Institutions	54
Appendix 5: Current Common Systems and Offices of Coordination	64

## **Executive Summary**

The 1997 University of Wisconsin System Information Technology (IT) Plan is focused on utilizing Learning Technologies to enhance the educational experience of our students by providing tools that allow students to participate in a more student centered learning process. Learning Technologies will provide the basis for "Education for the 21st Century." Not only must our students be proficient in using such technologies as a basic skill, but also they must have the greater capacity to use them both independently and collaboratively in research, in the workplace, and in their lifelong educational pursuits.

The 1997 UW System IT Plan builds upon the Report of the Vice Chancellor's Working Group on Academic Programs and IT Planning, which stressed the importance of academic program needs driving IT activity, and the 1996 UW System IT Plan in seeking to encourage UW System institutions to use technology creatively and efficiently in carrying out their teaching, research, and community service missions. It also builds upon the Systemwide Conference on "Leveraging the System," and the 1997 IT Plans of UW System institutions.

In order to develop Education for the 21<sup>st</sup> Century, an Infrastructure of Learning Technology composed of the following areas is needed:

- Faculty Technology
- Student Technology
- Classroom Technology
- Library Technology
- Network Technology
- Instructional Design & Support Staff
- Help Desk, Networking & Technical Support Staff
- Assessment of Technology & Its Impact on Learning

The UW System has already made major strides in developing this Infrastructure of Learning Technology and in improving other areas of IT through the following accomplishments:

- Establishment of Instructional Technology Development Centers
- Classroom Renovation/Modernization
- Distributed Learning System (DLS) Pilot Project
- Establishment of Systemwide IT Resource Measures
- Joint Re-Engineering Project (UW, DOA)
- Electronic Library Material & Reserves
- Student Information System (SIS)/HELP On-Line

Major technology projects planned in the 1997 IT Plan to support “Education for the 21<sup>st</sup> Century” include:

- Continuing Classroom Renovation/Modernization
- Enhancing curricular design support services for faculty and staff
- Upgrading or replacing outdated faculty and instructional staff desktop computers
- Upgrading campus networks
- Enhancing distance education capabilities

UW System will support campus teaching and learning objectives by using additional funding provided by the State to address targeted areas of faculty technology improvements, while also providing support and training for faculty and staff in using technology in the classroom. The UW System will continue working with state government to implement BadgerNet, the statewide network, at all UW System institutions. UW System will also expand activity in assessing technology-enhanced courses to determine how learning technologies can best be used to support instruction.

## Introduction

The 1997 University of Wisconsin System Information Technology (IT) Plan focuses on one of the many goals of the University: improving student learning through the use of technology. There are, of course, many other technology related goals in the UW System, including:

business processes, student records, communication technologies, and the year 2000 problem. These various projects are reported in this document in conjunction with the campuses' individual IT plans, and though they are critical to the effective operation of the universities, they are all subsidiary to and supportive of the learning and research missions of the UW System institutions.

Over the last several years, driven by major improvements in digital networking, the use of digital technology to enhance teaching, learning and research has come into sharper focus. What once was primarily the province of the business side of higher education, digital technology has become increasingly the domain of faculty and students. The campus IT plans for 1996 and again for 1997 are dominated by teaching and learning technology implementation and support. The Board of Regents Study of the UW System in the 21<sup>st</sup> Century, the Vice Chancellors' Working Group on Academic Programs and IT Planning, and the 1997 Systemwide Conference on "Leveraging the System" all pointed to redefining how the UW fulfills its teaching and learning goals and how technology could be used to help reach those goals. In addition, major UW System and state funding initiatives, including student technology fees, classroom renovation, network installation, classroom and laboratory modernization, and acquisition of a third generation library management system all point to the enhanced use of technology in teaching and learning.

The 1997 IT plan is structured to focus on the goal of improving learning through the use of technology. To meet this goal there are technology infrastructure and staff support implications. Finally, we have an obligation to assess how well we meet our goal, to analyze what part digital technology plays in the outcomes, and to suggest alternatives to the goal of improving learning based upon what we learned from our assessment studies.

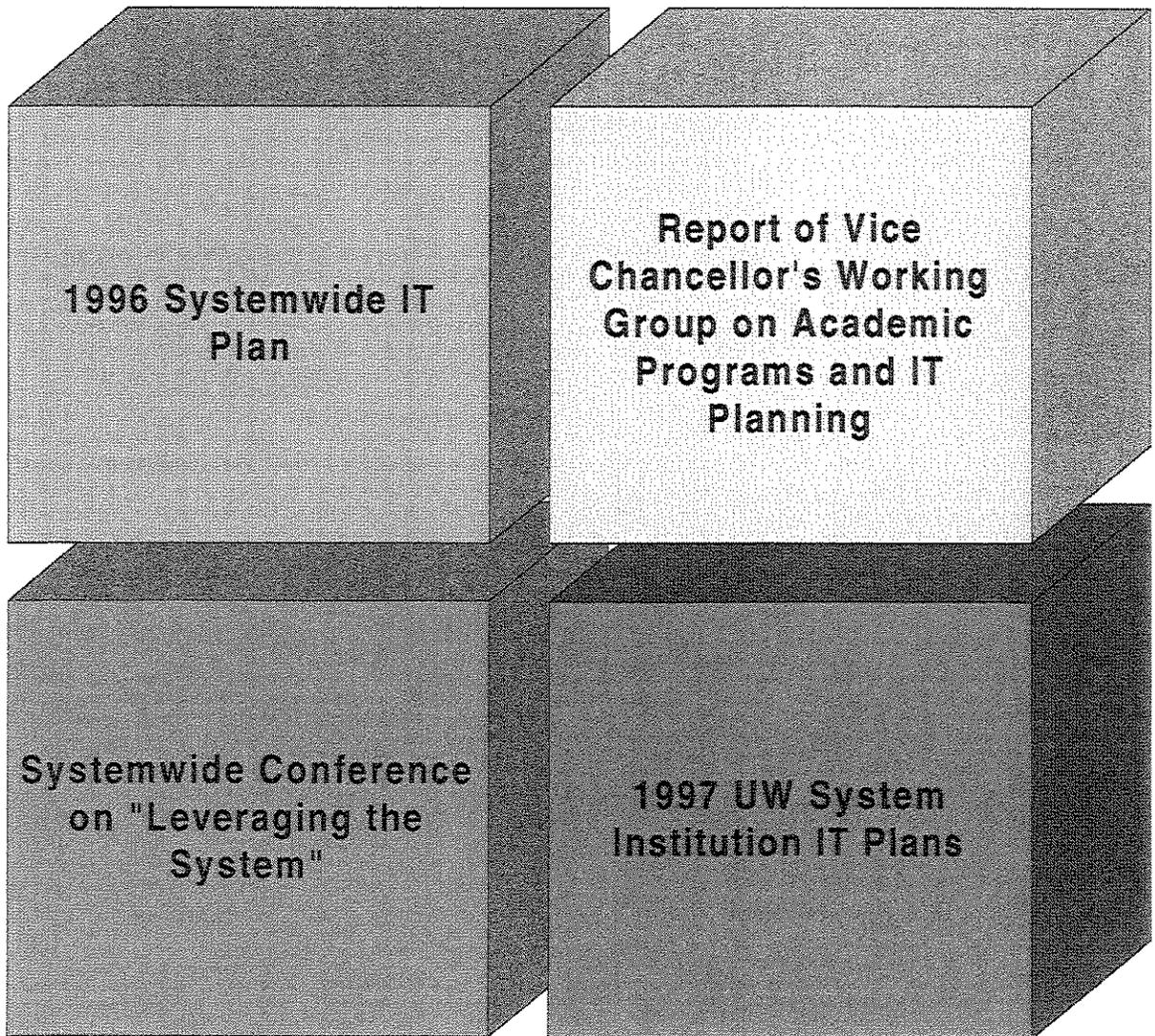
# **I. Building Blocks of the 1997 UW System Information Technology Plan**

There are four major inputs or “Building Blocks” into the 1997 UW System IT Plan as shown on Chart 1:

1. **The 1996 Systemwide Information Technology Plan (Appendix 1).** The 1997 UW System IT Plan explains the progress that has been made to date on projects listed in the 1996 Systemwide IT Plan, such as:
  - Instructional Technology Development Centers for Faculty and Staff
  - SIS (Student Information System)/HELP On-Line
  - Inter-Campus and Statewide Network Access Links (BadgerNet)
  - Electronic Library Materials and Reserves
2. **The Report of the Vice Chancellors’ Working Group on Academic Programs and Instructional Technology Planning (Appendix 2).** This Report is the key input to the development of the 1997 UW System IT Plan, and noted the importance of having academic program needs drive the IT activity that is evolving in the UW System and its institutions.
3. **Systemwide Conference on “Leveraging the System” (Appendix 3).** This conference brought together about 60 experts from UW System institutions on core university functions, such as Delivering Instruction, Research & Scholarship, and Student Academic Support and Campus Life, to begin developing new ideas for inter-campus collaboration.
4. **1997 UW System Institution IT Plans (Appendix 4).** These plans reflect campus plans and priorities for Information Technology.

# Chart 1

## The Building Blocks of the 1997 Systemwide IT Plan



## II. Education for the 21<sup>st</sup> Century

Learning Technologies enhance the educational experience of our students by providing tools that allow students to participate in a more student centered learning process. This more individualized learning environment is fostered because Learning Technologies provide:

- A wide variety of new software, digitized course materials and presentation and distribution technologies that address a wide range of learning styles.
- Technology such as groupware and e-mail which have increased the interaction of students with faculty, students with other students, and faculty with other faculty.
- Increased access to learning materials by students from an ever-growing number of locations including campus, workplace and home via the World Wide Web.
- Increased opportunities for learning to take place asynchronously (independent of time and place).

Learning Technologies will provide the basis for Education for the 21st Century. Not only must our students be proficient in using such technologies as a basic skill, but also they must have the greater capacity to use them both independently and collaboratively in research, in the workplace, and in their lifelong educational pursuits.

Specific examples of Learning Technologies being used effectively around the UW System include:

- Paul Boyer, Professor of Biology at UW-Parkside, uses computer-assisted learning technologies and Internet resources in his biology courses. He currently is developing computer-assisted, problem-based learning courseware modules for the biology course "Nature of Life" that will completely replace the current lecture-based delivery of the course.
- The Computer Music Center at UW-Stevens Point contains a variety of tools which allow students to gain experience working with digital technology and recording techniques. For example, students can perform, improvise and compose on a musical keyboard and see the music printed on the computer screen or record and produce their own

digital recordings. For group presentations, students and faculty can display their works using a television monitor and speakers.

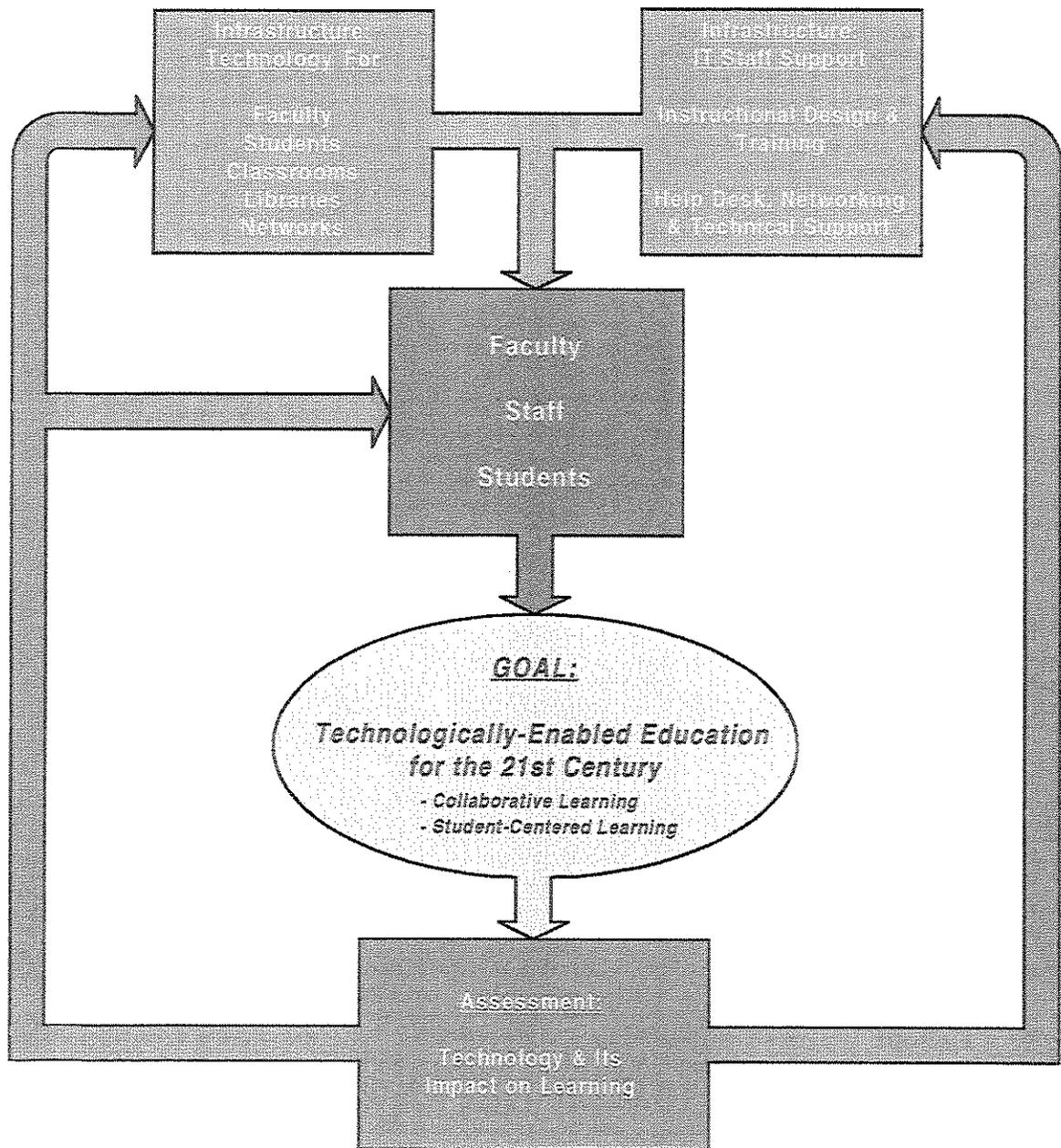
- Students at UW-Madison learn Yoruba, an African language spoken in Nigeria, through an interactive multimedia program tutorial. The students hear many native speakers and are able to record their own voice into the program and compare their pronunciation with native speakers. The program also introduces the written language and the culture.
- Dr. Bill Van Pelt, Associate Professor of English and Comparative Literature at UW-Milwaukee teaches students to write clear prose documentation for computer applications and software, including instructional guides, tutorials, manuals, online help, Web pages, SGML and HTML, and graphics and page design for each of these genres in the class "Writing for Computer Technology." Students are also required to use word processing, e-mail, listservs, gopher, Netscape, and various other computer applications. In Van Pelt's "Advanced Writing Workshop," students give electronic responses to peers' work, participate in online discussion, and exchange email with Prof. Van Pelt regarding their writing and writing progress.
- Donald Rambadt, Lecturer in Geography at UW-Whitewater uses the Internet in several of his classes. In Global Perspectives, a class Rambadt, Jayati Ghosh, and John Patterson teach, students do an Internet-based research assignment and use population simulations developed at Virginia Technological University. This class is part of the National Science Foundation (NSF) funded Virtual Geography Department Project at the University of Texas, Austin.
- Students in a Genetics course at UW-Madison work in teams to design experiments. They use a computer simulation to "breed" fruit flies using varying conditions which could not be duplicated in a real laboratory. The program also assists in analyzing the data.

As Chart 2 on the next page shows, an Infrastructure of Learning Technology composed of the following areas is necessary to develop Education for the 21<sup>st</sup> Century:

- Faculty Technology
- Student Technology
- Classroom Technology
- Library Technology
- Network Technology
- Instructional Design & Support Staff
- Help Desk, Networking & Technical Support Staff
- Assessment of Technology & Its Impact on Learning

# Chart 2

## Education for the 21st Century



## A. Faculty Technology

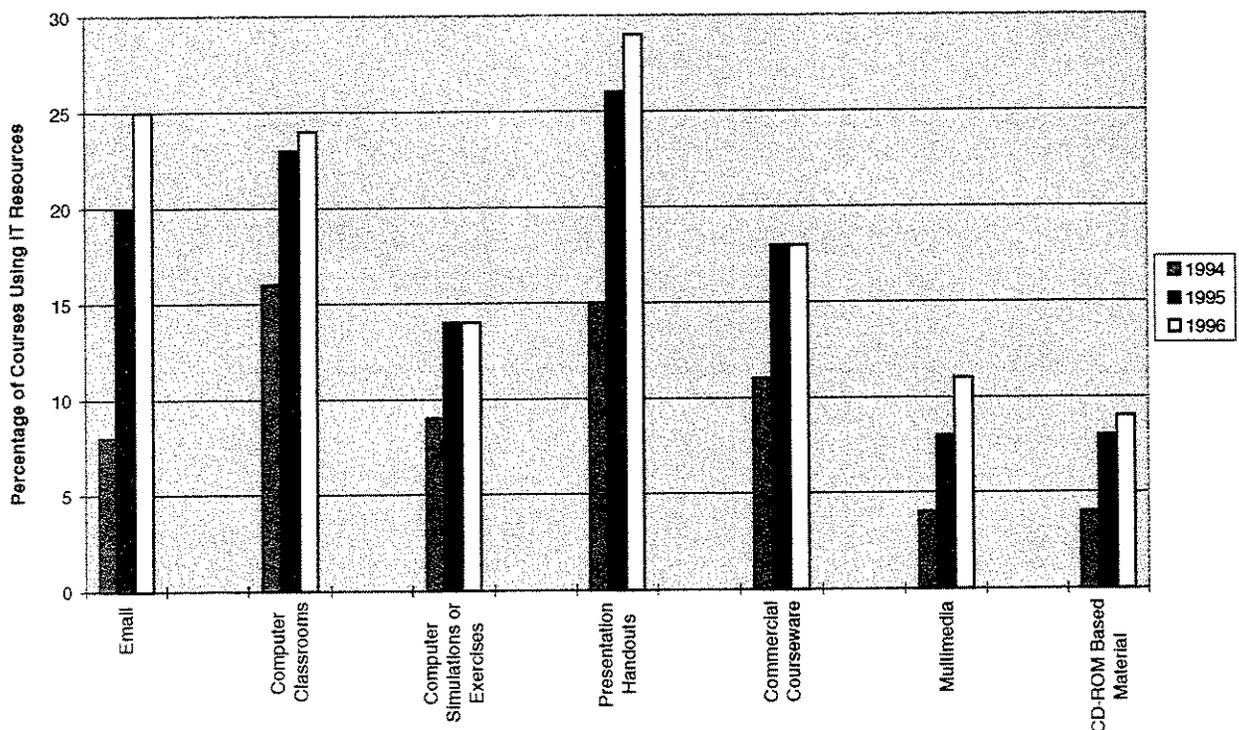
### 1. Educational Impact

In order for faculty to incorporate technology into the curriculum and enhance student centered learning, faculty need to have access to modern technology, such as multimedia computer workstations, scanners, printers, recordable CD-ROM, e-mail, access to the campus network, and access to the World Wide Web (WWW).

As the data in Chart 3 shows, nationwide, the use of information technology in instruction has grown significantly in the past few years. In order to increase the usage of IT in instruction and enhance the materials faculty can incorporate into courses through IT, enhancements in the technology tools provided to faculty and instructional academic staff are needed.

**Chart 3**

**National Use of Information Technology as an Instructional Resource**

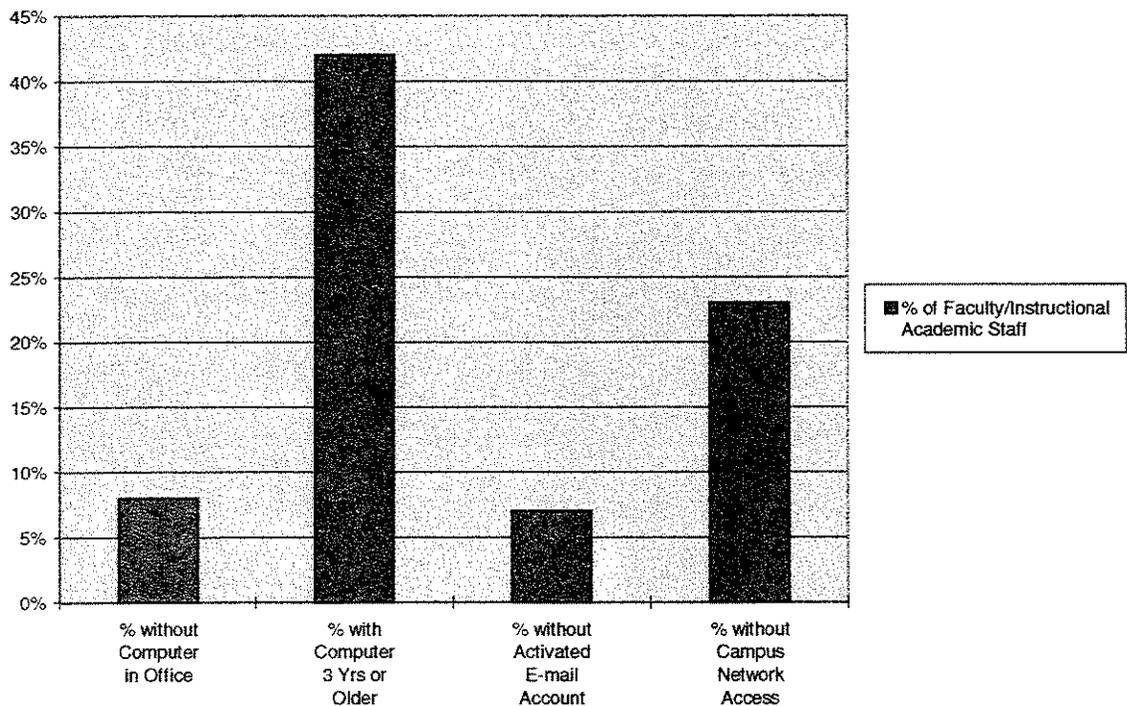


Source: Green, Kenneth C., *Campus Computing 1996*

## 2. Present Status

To date, UW System institutions have largely funded faculty technology through base reallocations, with individual departments using their small amount of discretionary funding available from vacant positions or other one-time funds. As a result, as Chart 4 shows, too many faculty and instructional academic staff do not have access to the modern technology tools needed to incorporate technology into the curriculum. Eight percent of faculty and instructional academic staff still do not have a computer workstation in their office. In addition, 42% have computers that are three years old or older. Finally, 7% of faculty do not have e-mail in their office, while 23% of faculty do not have campus network access including a graphical Web browser.

**Chart 4**  
**Faculty Technology Barriers**



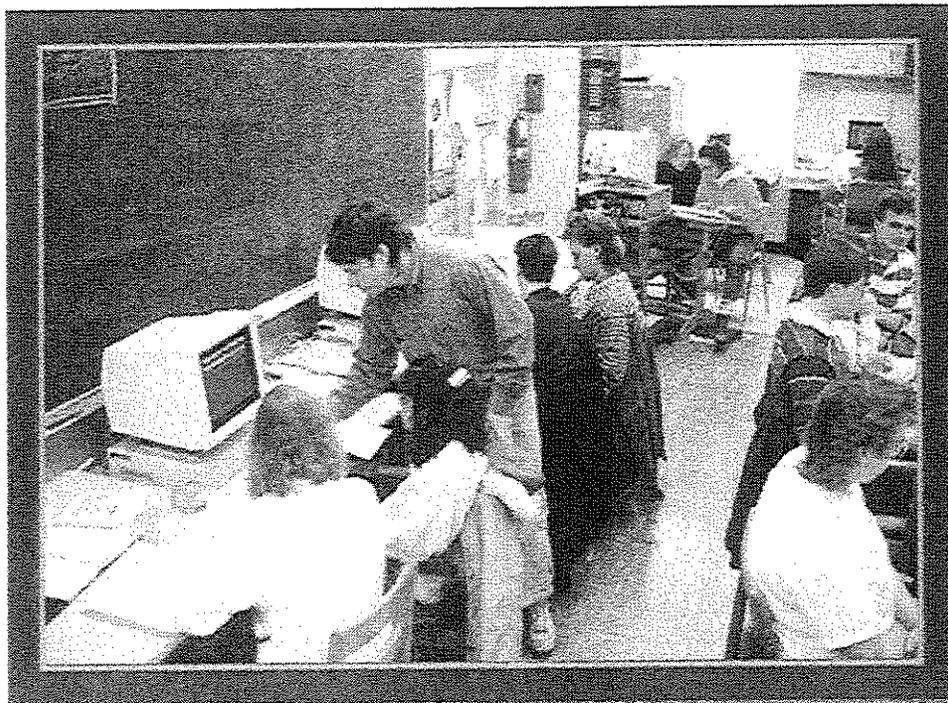
## B. Student Technology

### 1. Educational Impact

Information Technology (IT) is increasingly becoming integrated into society, with 39.5% of households in the United States (as of July 1996 Nielsen Media Research Survey) owning a computer workstation. In addition, businesses increasingly demand greater technology literacy of their employees. As a result, UW System institutions must provide student access to the latest technology.

Information Technology also provides important educational benefits for students. For example:

- Computer workstations for writing homework assignments, developing spreadsheets, etc.
- Research through on-line library resources and the Internet/World Wide Web (WWW)
- Self-paced learning through new software and faculty-developed courseware
- E-Mail and Groupware for enhancing communications between faculty and students and among students



## 2. Present Status

As Table 1 shows, thanks to programs such as the General Computer/Network Access program begun in 1989, and the Student Technology Fee begun in 1995, student access to technology at UW System institutions is largely positive and much improved over where UW System institutions were prior to 1995. However, the ratio of students (FTE) to General Computer Access workstations is 28 to 1, still approximately 1,800 computers short of reaching the original goal of 20 to 1 set by campus computer directors in the late 1980s. In addition, similar to faculty computers, too many of these student computers are outdated, with 36% of the student computers 3 years old or older.

Students at UW System institutions have good access to e-mail, Campus Networks and the World Wide Web (WWW), with 89% of students having e-mail accounts and the same percentage of student computers having network access including graphical Web browsers.

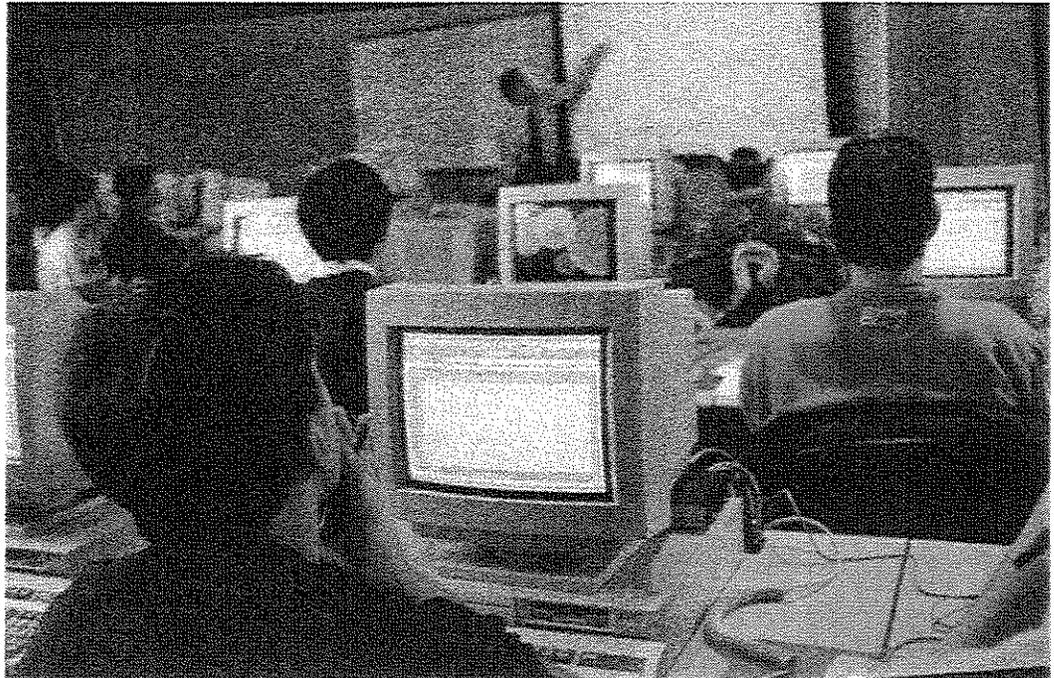
**Table 1**  
**Student Technology**

Ratio of Students to General Access Computers	28/1
% of General Access Computers 3 Years or Older	36%
% of Students with E-Mail	89%
% of Student Computers with Network/Web Access	89%

## C. Classroom Technology

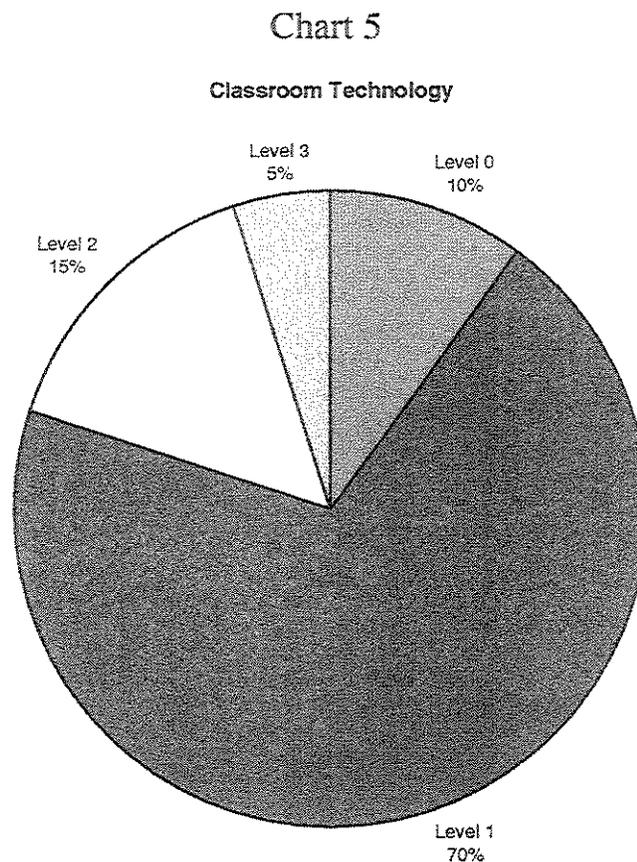
### 1. Educational Impact

In order to fully integrate technology into the curriculum, faculty and instructional academic staff need to bring technology into the classroom. In order for faculty and instructional academic staff to do this, UW System classrooms need to have the modern technology, such as overhead projectors and projection screens, multi-media faculty workstations and control systems, compressed video for distance education, and often student workstations. This technology allows faculty to bring material into the classroom that previously was not possible, such as computer simulations and experiments, digitized pictures and sound, video from off-campus sites, and courseware specifically designed for specific discipline areas that enhance instruction.



## 2. Present Status

As Chart 5 shows, classrooms at UW System institutions need upgrading for faculty, instructional academic staff, and students to utilize new technology. Only 20% of UW System classrooms are at Level 2 or 3, with Level 2 defined as having multiple instructional technologies installed in the room and Level 3 defined as combining multiple technologies with a unifying control system.



Level 0 is defined as Level 1 not met - chalkboard, markerboard and projection screen are not installed.  
Level 1 is defined as the minimum technology needs for traditional instruction - chalkboard, markerboard and projection screen are installed.  
Level 2 is defined as having multiple instructional technologies permanently installed in the room.  
Level 3 is defined as combining these multiple technologies with a unifying control system.

## D. Library Technology

### 1. Educational Impact

As we move into the current biennium, libraries across the University of Wisconsin System are, more than ever, strategic to our collective success in changing teaching and learning through the use of a broad range of information and technology resources. Librarians have planned and implemented electronic information access for information seekers for the last 30 years. Whether we are planning and designing a new electronic classroom, student computing laboratory, a campus network, or a statewide network, libraries are central to virtually every resource and spending decision we make. Distributed access to online library catalogs, indexes and abstracting services, full-text documents, and discipline-specific databases make libraries significant players in the campus and statewide networking environment.

As the University of Wisconsin System faces the call for more stringent accountability of its budget expenditures, increased efforts need to be undertaken to strengthen communication between traditional IT units and libraries. Collaboration is essential to plan and implement network enhancements, new software, online systems, authentication/validation for user access and delivery of full text documents.

### 2. Present Status

The three key components of library services are:

- Collections (books, media, journals, in print and electronic formats)
- Finding aids (catalogs, indexes and abstracts)
- Instruction and guidance in the location and use of these resources.

The UW System Library and Academic Information Access Strategic Plan (1996) states "UW libraries are places where collaborative learning will take place. Librarians will work with faculty to

incorporate information resources into teaching and learning processes.” Libraries are doing this now.

Libraries are strategic components of information technology environments. Planning strategies must:

- Make better use of our libraries as change agents in the transformation of teaching and learning on the campuses as we plan, design, build and support instructional technology environments of every type: classrooms, labs, libraries, networks, faculty offices, and residence halls.
- Address the core book and periodicals collections funding shortfall which is exacerbated by the high cost of electronic products.
- Position each campus and the UW System as a whole to support the new Library Automation Project.
- Focus carefully on the content of all library resources with attention to differing rates of conversion to electronic platforms based on type of materials [books, journals, databases] and disciplines, e.g. : sciences, social sciences and humanities.
- Address statewide distance education access to library resources, developing criteria, addressing costs, diverse subject coverage, quality, platform compatibility, user access and adequate technical support.

## E. Network Technology

### 1. Educational Impact

Campus Networks are key components to providing access to information for students, faculty, and staff. An information highway has no more capacity, nor any more features, than its entrance ramps. Examples of the benefits of high capacity, pervasive campus networks include:

- Allow faculty to utilize various on-line materials in instruction through connection of labs, classrooms, libraries and the Internet/World Wide Web.
- Provide students with access to libraries, Internet/WWW, other instructional materials, and student information from anywhere on campus.
- Enhance distance education capabilities from any classroom on campus.
- Allow for faculty teams to collaborate on interdisciplinary courses across the campus and across the world.
- Enhance faculty research through communication with other faculty around the world.

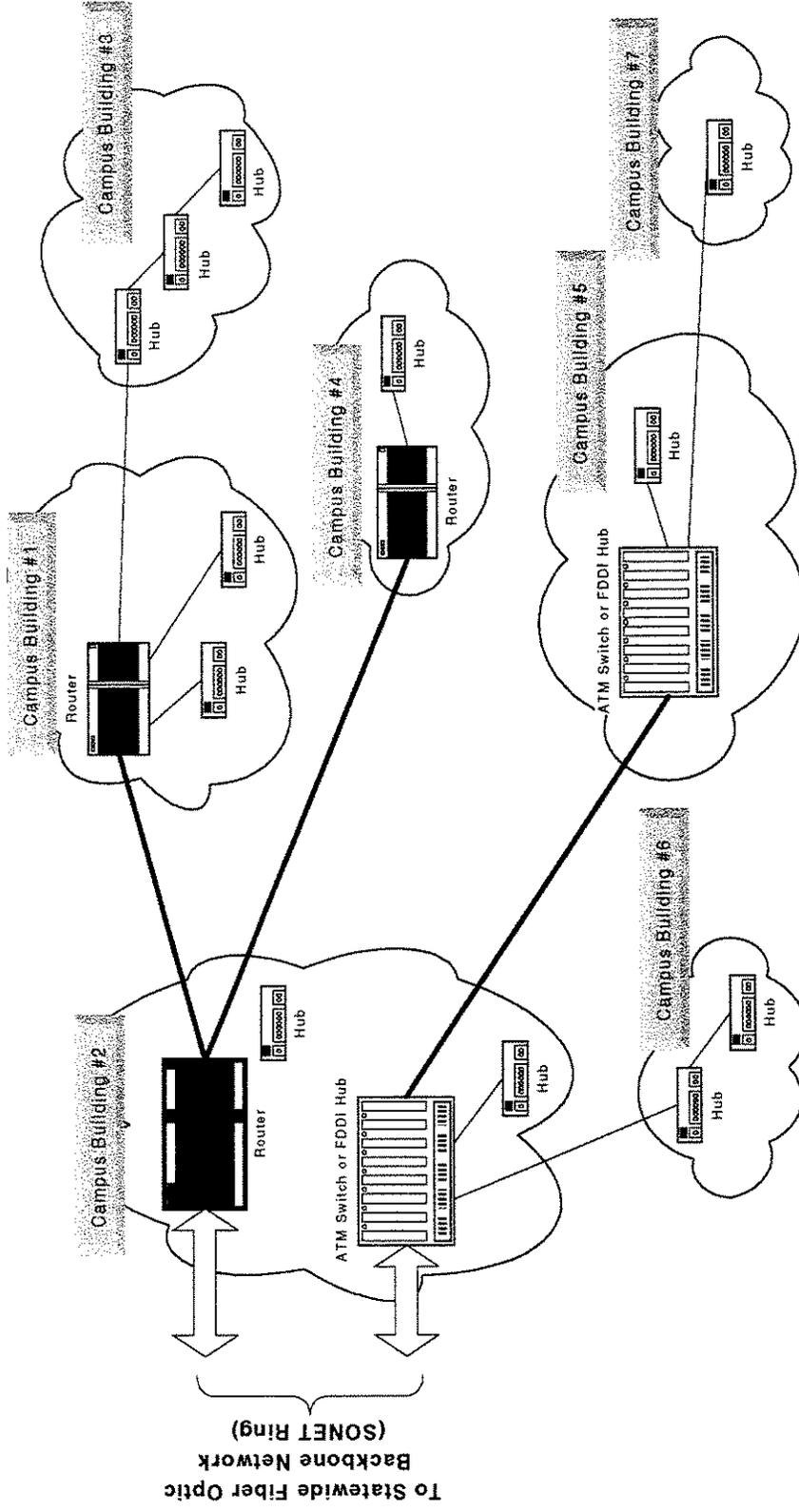
### 2. Present Status

Regarding networking at UW System institutions, the Capital Budget provided funding in three phases for UW System institutions to wire their buildings and build on-campus fiber backbone networks. The first phase, "Universal Wiring," provided fiber between buildings and Category 3 wiring in buildings at UW-Madison, UW-La Crosse, UW-Oshkosh, UW-Green Bay, and UW Colleges. The second phase provided fiber optic wiring between buildings at the remaining nine institutions, and the third phase provided Category 5 wiring in buildings in these nine institutions.

While wiring may need to be upgraded in certain locations on campus to accommodate the needs for carrying high capacity data, graphics, sound and video needs, the most pressing need for networking at UW System institutions is for network connectivity devices such as routers,

hubs and switches. These electronic devices are shown in a sample campus network in Figure 1. The Capital Budget “Intra-Building Wiring Project” provided very little funding for upgrading electronic devices for networking. As a result, it is necessary to have ongoing funding for replacement of network technology to keep pace with changing educational needs as well as changing technological requirements.

Figure 1  
**Sample Campus Network Configuration**

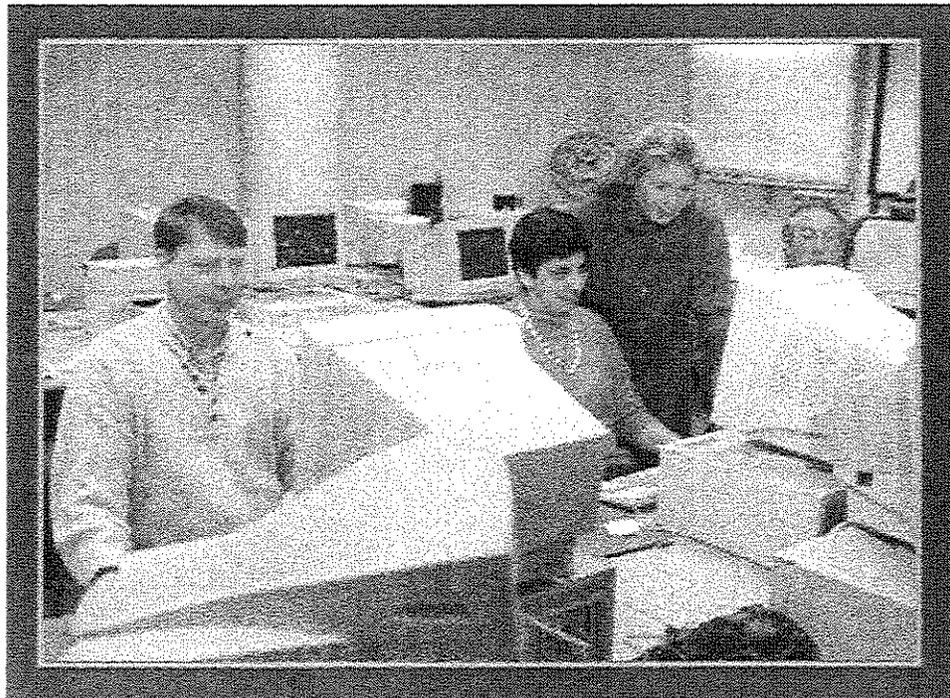


dm-draw.vsd

## F. Instructional Design & Support Staff

### 1. Educational Impact

Instructional Design and Support Staff are needed to work with faculty and instructional academic staff in integrating technology into courses, whether those courses are on- or off-campus. Instructional designers guide faculty in re-thinking the teaching/learning environment and helping identify opportunities for the use of technology to support learning-centered approaches. Working with the faculty, the instructional designers help identify courses or parts of courses where the concepts are difficult or impossible to teach with traditional methods and media, or where the learners are not reachable in a traditional classroom. Then using their technology knowledge, the instructional designers help faculty select the best technologies for the instruction. Working with computer programmers and other technical support staff, the instructional designers help develop the instructional materials which may be delivered at lecture presentations, via the World Wide Web, compressed video, videotape or other methods. The instructional designers assure that appropriate technologies are used in effective ways to improve teaching and learning.



2. Present Status

Across the UW System, there are insufficient Instructional Design and Support staff to work with faculty and instructional academic staff in instructional development. Table 2 shows that there are only 51.05 Instructional Development FTE permanent staff to work with approximately 8,500 FTE faculty and instructional academic staff, or approximately 1 to 166. These permanent Instructional Development staff are only supported by an additional 24.9 LTE staff and student help systemwide.

**Table 2**  
**Instructional Development Staff**

Fall, 1996 Instructional Materials Development Staff (Number of FTE permanent staff)	37.05
Fall, 1996 Instructional Technology Development Center Staff (Number of FTE permanent staff)	14.00
Fall, 1996 Total Instructional Development Staff (Number of FTE permanent staff)	51.05

## G. Help Desk, Networking & Technical Support Staff

### 1. Educational Impact

Help Desk, Networking and Technical Support staff are required for properly functioning classrooms, labs and networks. Investments in high-tech classrooms, labs, and networking, must be matched with investments in technical support to insure good and continuous operation. Help Desk and technical support staff also provide support and training to students in the latest technologies. Students need and demand short courses and immediate support in using the latest software and courseware. In addition, technical support is needed to provide assistance for students and for faculty in their offices. With the explosion in faculty usage of technology in instruction, the demand for just-in-time services has also increased. Faculty also need technical training in order to integrate the latest software and courseware into their courses and train their students on how to use these new tools.

### 2. Present Status

Help Desk, Networking and Technical Support Staff are also in short supply across the UW System. Table 3 shows that there are only 29.90 FTE permanent Help Desk staff (supported by 49.21 LTE and student help) to deal with questions and support for approximately 8,500 faculty and instructional academic staff, other staff and approximately 150,000 students (headcount) or less than 1 FTE permanent staff for every 5,000 students, faculty and instructional academic staff. The volume of Help Desk traffic is shown in the following examples:

- At UW-Madison, the Help Desk answers approximately 120,000 phone calls annually, in addition to answering questions to almost 9,000 e-mail and 7,700 walk-in requests.
- AT UW-La Crosse, the Help Desk provides services to almost 21,000 walk-in and 6,600 phone contacts annually.
- UW-Stevens Point averages 32 calls per day at its Help Desk, with a high of 77 calls per day in September, 1996.

Telecommunications/Network staff are also in short supply. Four-

Year UW System institutions average less than 3 permanent FTE per institution for the important task of keeping the voice, video and data networks operational, with an average of an additional 1 LTE or student who usually have less experience to support this area. Meanwhile, UW Colleges only have 3 FTE total for this critical area.

Finally, there are only 28.15 permanent FTE Instructional Computing Development/Training Staff (supported by 6 LTE and student help) which provide one-on-one or group training to faculty and staff on instructional software and e-mail.

**Table 3**  
**Help Desk, Networking, & Technical Support Staff**

Fall, 1996 Help Desk Staff (Number of FTE permanent staff)	29.90
Fall, 1996 Telecommunications/Network Technicians (Number of FTE permanent staff)	43.30
Fall, 1996 Instructional Computing Development/ Training Staff (Number of FTE permanent staff)	28.15

## H. Assessment of Technology & Its Impact on Learning

### 1. Educational Impact

The rapid emergence of new learning technologies, some of which didn't exist even as little as a few years ago, is affecting the very fabric of higher education. It is no longer an option as to whether to use learning technologies but rather how to most effectively use them. With the vast array of new learning resources and a radically different system of access to them, traditional models of learning and teaching are being reexamined with some entirely new models emerging. In order to most effectively use these technological resources to support Education for the 21st Century, it will be necessary to find and apply new and appropriate measures of their effectiveness.

### 2. Present Status

An annual systemwide survey is conducted to assess such issues as the status and availability of hardware, software, connectivity and support personnel. However, there is no current systemwide assessment of the impact that Learning Technologies have on learning, teaching and the structure of the University. To date, such data has been gathered only anecdotally in projects and workshops or, more formally, in individual research.

### III. 1996-97 IT Accomplishments

The UW System has made major progress in 1996-97 in developing this Infrastructure of Learning Technology and in improving other areas of IT through the following accomplishments:

**Instructional Technology Development Centers for Faculty and Staff:**

Most four year institutions have now established Centers to support faculty and instructional staff in incorporating technology into instruction.

Additional funding in the Biennial Budget will allow institutions to expand these efforts. In addition, the Learning Technology Development Council (LTDC) has been formed to coordinate institutional activities in this area and share information and best practices.

**Classroom Renovation/Modernization:** Through 1995-97 Capital Budget resources for renovation of general assignment classrooms, approximately 90 classrooms have been remodeled. Operating Budget funds for equipping and remodeling classrooms modernize approximately 40 classrooms annually.

Campus reallocations have also added classroom capabilities for using technology in instruction.

**Distributed and Shared Education Media Servers:** A pilot project to promote the use of the Distributed Learning System (DLS) Model was completed at the UW-Eau Claire and UW-Madison campuses. Both campuses had substantial involvement of both students and faculty in this project to implement this vision of a common delivery platform of information technology-based education described in the 1995 and 1996 UW System Information Technology Plan.

**IT Resource Measures and Goals:** The UW System Council of Chief Information Officers has established IT Resource Capacity Planning Measures which is an inventory of present status and goals at UW System institutions for major IT areas, such as faculty and student IT resources, networking and classroom technology.

**Joint Re-Engineering Project on Purchasing (UW, DOA, Statewide):** A joint Re-Engineering Project on Purchasing between UW System and the Department of Administration (DOA) completed its study and presented its final report to Department of Administration Secretary Mark Bugher. The report a). Defined a list of data requirements, evaluated the perceived

efficiency of various procurement systems and analyzed other state solutions in the procurement re-engineering arena; b). Recommended that record sampling for the Management Reviews should concentrate on the high-dollar transactions and contracts; c). Explored the value of creating long-term, vendor-partnering relationships within the public sector; and d). Established criteria by which agencies are granted and maintain major purchasing delegation.

**Electronic Library Material and Reserves:** The UW Libraries are leveraging their resources to improve access to bibliographic and full text electronic research materials through consortial licensing agreements. UW Libraries are also making progress toward Electronic Reserves. Nearly all campuses cite electronic reserves in their technology plans and several campuses have implementation well underway. UW Libraries are providing an array of electronic resources and services through Web technology. Libraries have created Web pages to serve as a gateway to Internet resources and to integrate access to library catalogs, reference sources, and databases.

**SIS (Student Information System)/HELP On-Line:** Components currently available include the Electronic Application for Admission, Transfer Information System, Financial Aid and the Distance Education Clearinghouse. Ameritech grant and funds in the Biennial Budget will enable the UW System to move ahead with this project.

## **IV. 1997-98 Projects Targeted to Building “Education for the 21<sup>st</sup> Century”**

UW System’s task in creating a technology plan for all UW institutions is two-fold:

- 1) Learning about and supporting institutional priorities
- 2) Building a vision based upon institutional priorities about the use of technology with goals and measurable objectives that support the University of Wisconsin’s mission

UW System Administration is uniquely situated to enhance communication not only among chief information officers, but also among librarians, academic officers, faculty, institutional business representatives, and anyone else interested in the creative and productive use of technology. UW Systemwide technology projects, then, are designed to pull together scattered technology initiatives from around the University of Wisconsin, fit them into the overall vision, and provide support options where appropriate. Technology is now so ubiquitous in all areas of the UW that hundreds of projects could be cited in any planning document. It is the Office of Learning & Technology’s (OLIT) responsibility to anticipate future directions, aggregate broadly similar projects, propose and support common solutions for common problems, and provide incentives to move all components of the UW System toward agreed upon common goals.

Among the tools available to OLIT for promoting a common vision and for providing help to UW System institutions in carrying out their unique missions are:

- Annual UW System IT Plan
- Seed money for technology projects that benefit the entire UW System
- Common practices databases
- Staff support for large multi-campus technology initiatives
- Promotion of common systems through licensing agreements and/or funding (Biennial Budget Requests for example)
- Exchange of information throughout the UW community, but especially through the CIO (Chief Information Officers) Council

The following Systemwide projects promote the vision of improving teaching and learning through the use of technology:

## A. Systemwide Projects

1. **Faculty Technology Improvements.** The 1997-99 Biennial Budget marks the first time that ongoing funds have been provided for faculty technology. \$200,000 in 1997-98 and \$800,000 in 1998-99 Systemwide will be used for faculty technology enhancement grants to provide selected faculty with equipment, supplies, software, and other expenses to support them in curricular redesign of their courses.
2. **Innovative Curricular Projects.** Centrally held funds will be used to support a systemwide "virtual institute." This "institute" will consist of several discipline-specific collaborations for the development and sharing of curricular materials; electronic information sharing via the WWW through the use of a newsletter and a best practice database; and a conference focusing on sharing the UW System's best practices using technology for teaching and learning.
3. **Student Technology Improvements.** Resources from the General Computer Access program, the Student Technology Fee, and other campus resources will continue to be used for adding student computer workstations, upgrading campus networks, increasing student access to the Internet/World Wide Web, and providing dial-in access from off-campus locations.
4. **Assessment of Technology's Impact on Instruction.** UW System will be analyzing existing assessment studies from UW System institutions and nationwide, and funding new assessment projects at UW System institutions to analyze the impact that Learning Technologies have on teaching and learning.
5. **New Options for Technology Training.** Because of the severe shortage of technical support and training staff on campuses, UW System Administration, in cooperation with the campus Chief Information Officers (CIOs) will be looking at options for using new software/CD-ROMs to support technology training of students, faculty and staff.

6. **BadgerNet.** BadgerNet will continue to be a strategic project for the UW System for years to come. Throughout the last several years the basic infrastructure has been, or soon will be, put in place. Going forward, BadgerNet will provide the conduit to continue the work currently being done on the Distributed Learning System (DLS). The DLS is the long-term strategy for education media distribution and presentation put forth in the 1995 UW System Strategic Plan. This will include coordination of video activity on BadgerNet. The BadgerNet project will also provide aid to the universal identification, authentication, and authorization project. This project will likely start small and take years to develop. The starting point is likely to be a universal electronic addressing scheme with progress growing towards a systemwide network directory system.
  
7. **Internet2.** Building on the tremendous success of the last ten years in adapting Internet technology to academic needs, 110 universities, including UW-Madison and UW-Milwaukee, have joined with government and industry partners to accelerate the next stage of Internet development in academe. The Internet2 project is bringing focus, energy and resources to the development of a new family of advanced applications to meet emerging academic requirements in research, teaching and learning. Internet2 addresses major challenges facing the next generation of university networks by:
  - First and most importantly, creating and sustaining a leading edge network capability for the national research community. For a number of years beginning in 1987, the network services of NSFnet were unequalled. But the privatization of that network and the frequent congestion of its commercial replacement have deprived many faculty of the network capability needed to support world class research.
  - Second, directing network development efforts to enable a new generation of applications to fully exploit the capabilities of broadband networks for media integration, interactivity and real time collaboration.
  - Third, integrating the work of Internet2 with ongoing efforts to improve production Internet services for all

members of the academic community. A major goal of the project is to rapidly transfer new network services and applications to all levels of educational use and to the broader Internet community, both nationally and internationally.

8. **Library Automation.** The University of Wisconsin System is in the process of procuring the next generation library management system. The selection of this system will be based on criteria that will support UW library strategic goals with respect to resource sharing, distance learning, integrated access, improved functionality, and open architectures that facilitate connectivity and accommodate emerging technologies.
9. **IT Survey.** In order to support future IT Planning, more comprehensive survey data will be collected on student faculty and staff usage of and satisfaction with the technology presently available and the future needs for technology. Survey data will be available per campus and systemwide. This IT Survey will support IT planning by the UW System Council of Chief Information Officers (CIOs), along with overall academic planning by the Chancellors, Vice Chancellors and other groups.

## **B. Campus Projects**

Each UW System institution has its own unique mission and goals, and uses technology to support them. Many of the technology solutions, however, are similar, and common systems abound (see Appendix 5 for a chart of Common Systems). In addition, technology infrastructure, including campus local area networks (LANs) and the UW wide area networks (WANs), desktop computing, and office automation software and curricular support software, are universal challenges at every UW System institution. Individual institutional needs drive overall UW System planning, but by directing our joint creativity and resources at key projects of interest to many campuses, the CIOs and other campus constituencies, with leadership from UW System's Office of Learning & Information Technology (OLIT), can move these projects forward in a collaborative fashion that most effectively supports individual campus efforts.

OLIT requested the top three IT projects planned in the coming two years at each UW System institution (see Appendix 4) with the intent to provide services and support wherever possible for their accomplishment. While there are unique projects at many campuses, there are a number of common projects designed to enhance the technology infrastructure, enhance teaching and learning, and address administrative challenges. Five project areas, aimed at enhancing teaching and learning through the creative use of technology, are being addressed at nearly every UW System institution. These include the following:

1. **Upgrading/replacement of outdated faculty/instructional academic staff desktop computers.** In addition to the Systemwide resources received in the 1997-99 Biennial Budget to address this area, campuses have established programs and reallocated additional resources to address this area.

For example, the UW-La Crosse's IT Plan establishes a goal of replacing 286, 386 and 486 computers with computers that have a minimum speed of 133 MHz, CD-ROM features and 32 megs RAM.

2. **Enhancing Curricular Design Support Services for Faculty/Staff.** Supported by funding from the 1997-99 Biennial Budget and reallocated campus resources, institutions plan to build and expand learning technology development centers and other resources on campus for faculty and instructional academic staff. This will allow faculty and instructional academic staff to receive staff support and have modern technology available to redesign courses in order to integrate technology into the curriculum and support instruction.

For example, UW-Parkside's IT Plan calls for the establishment of a curricular design support service for faculty interested in using new technologies for instruction. The center will include staffing and hardware/software resources. Faculty who have pioneered in this area will be key players, but the plan also stresses the need for drawing in other faculty as well.

3. **Classroom Renovation/Modernization.** Through Capital Budget resources for renovation of general assignment

classrooms and Operating Budget funds for equipping and remodeling classrooms and other campus reallocations, institutions will continue to add classroom capabilities for using technology in instruction.

For example, at UW-Oshkosh, the campus cable TV system will be expanded with the installation of cable TV drops in 140 general classrooms. This will create a distributed cable system that allows transmission of a variety of live or recorded video sources (satellite broadcasts, videotapes, or live broadcasts) to all general classrooms. Major projects at UW-River Falls include completion of four Technology Enhanced Classrooms (TECs) with full multi-media and network capabilities, 6 mobile TECs which will provide computer presentation capability with LCD projectors, network and document cameras, and addition of a faculty/staff file server on the campus LAN for preparation, storage of and campus-wide access to instructional materials.

4. **Upgrading Campus Networks.** With funding from the 1997-99 Biennial Budget and reallocated institutional resources, campuses continue to plan the expansion of the campus network to provide connectivity to faculty, staff and students. These campus network expansions will also support the development of BadgerNet and Internet2 systemwide.

For example, UW-Madison is embarking on a series of integrated networking projects to support evolving network applications such as Distance Education, and to provide virtual networks serving distributed departments such as Library and School of Education, independent of geography. Project components include upgrading the Network Operations Center, expanding the dial-in modem pool, offering ATM-based dedicated bandwidth for such media as video, and providing a high-speed ISDN dial service.

5. **Enhancing Distance Education Capabilities.** Through the use of resources received in the 1997-99 Biennial Budget and other reallocated resources, institutions will be adding to their distance education capabilities to reach new audiences around the state and also provide additional course options to their on-

campus students.

For example, at UW Colleges, the objective of their Distance Learning Development Project is to implement a capability for delivering and receiving interactive video at all UW Colleges. In addition, UW-Extension is designing and implementing video, audio, multimedia, telecommunications and computing infrastructures that can be expanded as demands grow. Developing a distributed learning infrastructure will support UW-Extension as it develops, implements, and manages its distance education courses. The infrastructure includes high-speed networking components (fiber optics, hubs, switches, and routers), scalable development and production servers, and software for the development, distribution, and management of distributed learning courses.

The new Wisconsin Center (recently renamed to the Pyle Center) will benefit all UW programs by providing efficient, upgraded, and expanded conference facilities and a "hub and gateway" for distance education network services. The center will enable UW System and UW-Extension to support access for students and the public across the state and nation. The Pyle Center will include the addition of telecommunications and distance learning capabilities to the existing Wisconsin Center, as well as an upgrade and remodeling of existing conference center facilities

## APPENDIX 1

# 1996 Systemwide IT Plan

### I. Foundations of the Plan

#### A. Board of Regents' Study of the UW System in the 21<sup>st</sup> Century (May 1996)

The UW System will use instructional and distance education technologies “to develop an enhanced *student-centered learning environment*, removing the barriers of time and place for students”

Address:

1. Student Needs
2. Academic Needs
3. Needs for Cooperation
4. Needs for Funding and Efficiencies
5. Technology Infrastructure and Staffing Needs

#### B. Governor Thompson's 1996 State of the State Priorities

1. Making additional UW courses available for high school students over the Internet
2. Establishing a network for students and faculty on all 26 UW System campuses to share interactive video and computer-based instructional materials
3. Giving all high school students access to UW System libraries
4. High Schools on the Internet:
  - a) Half of all high schools on the Internet by Fall 1996
  - b) All high schools on the Internet by Fall 1997

#### C. UW Institution's Academic Program Plans

1. Multi-campus Degree Consortia
2. Curriculum Enhancements

3. Inter-Disciplinary and Inter-Campus Collaboration
4. Distance Education Courses

D. Council of Chief Information Officers' Biennial Strategic Planning Report

Planning Goals for Information Technology 1996-2001

1. Academic Quality
2. IT Resource Stewardship
3. Time Savings
4. Seamless Access

## II. Major Issues/Projects and Progress-to-Date

Theme	Project	Description	Status
<i>IT Policy and Planning Issues</i>	Copyrights and Royalties	Provide general guidance with issues related to copyrights and royalties and information technology.	General Administrative Policy Paper (GAPP) 27 which deals with copyright on instructional materials is in the process of being rewritten.
	Appropriate Use Policies	Provide general guidance in dealing with issues concerning appropriate use of UW information technology resources.	Completed <u>Policy on Use of University Information Technology Resources</u>
	Coordinated Systemwide IT Infrastructure Planning	Update, assess, plan, and forecast IT infrastructure configurations and capacities for the UW System	Planning for 1999-2001 biennium in progress
<i>Inter-Campus and Inter-Agency Cooperative Projects</i>	Site Support for Distance Education Offerings	Assure a "quality experience" for distance education students by ensuring access and utilization of receive sites	Biennial Budget includes funding for site support services. Uniform fees established by Systemwide Compressed Video Site Support Policy.
	Instructional Technology Development Centers for Faculty and Staff	Establish and provide ongoing support of instructional technology development centers in all UW System campuses	Most four year institutions have now established Centers. Additional funding in Biennial Budget will allow institutions to expand these efforts.
	SIS (Student Information System)/HELP on-Line	Coordinated access to on-line student information and services	Components currently available include the Electronic Application for Admission, Transfer Information System, Financial Aid and the Distance Education Clearinghouse
	OWL Consortium	As a consortium, provide common student information components which will allow for faster and less costly implementation, leveraging small programming staffs, and multi-campus training and support	Peoplesoft Student Administration purchased by UW-Oshkosh, UW-Platteville, UW-Whitewater.
	SPEEDE (Standardization of Post-secondary Education Electronic Data Exchange)	Receive and send electronic transcript information among UW institutions, secondary schools, and other post secondary institutions	Biennial Budget includes funds which will enable the UW System to implement this protocol at each institution.

## II. Major Issues/Projects and Progress-to-Date

Theme	Project	Description	Status
<i>Inter-Campus and Inter-Agency Cooperative Projects</i>	UW Processing Center	Provide centralized payroll services and account reporting for the UW System	Merger of payroll systems is targeted for completion by the end of calendar year 1997. Tax reporting will be completed for calendar year 1997. The first phase of the Benefits Administration subsystem will be operational in Spring of 1997 and the first phase of the new data structures will be in place in 1998.
	User Authentication and Eligibility of Students for Use of Inter-campus Services	Determine the requirements and constraints for Systemwide identification and authentication of UW students, faculty, and staff, and the use of this information to determine eligibility for various services	A Systemwide taskforce has been created and a final report will be submitted to the Board of Regents by January 1998
	"Best Practices" in Financial Systems and Processes	Evaluate business practices and improve financial systems and processes at UW System institutions using "best practices" methodology.	Report to the UW Processing Center Board of Directors and Institutional Business Representatives by late summer/early fall, 1997.
	The Wisconsin Educational Technology Consortium	Develop a structure to coordinate cooperative funding initiatives to develop a seamless statewide technology infrastructure available to all educational institutions in the State of Wisconsin.	The TEACH initiative has created the Governors' Commission on Teaching in the 21 <sup>st</sup> Century which will study how to best prepare educators for integrating educational technology into teaching in K-12
	Joint Re-Engineering Project on Purchasing (UW, DOA, Statewide)	Expedite procurement autonomy	Revised bid levels, revised major delegation levels for agencies, offer procurement cards to agencies

## II. Major Issues/Projects and Progress-to-Date

Theme	Project	Description	Status
<i>Infrastructure Resource Plans</i>	Functional Compatibility Goals	Define consensus common grounds for technology standards and direction	Systemwide consensus on compatibility has been reached for projects such as On-Line Registration, SPEEDE (Standardization of Post-secondary Education Electronic Data Exchange) and BadgerNet. In addition, progress on data sharing across campuses is being achieved through the Identification, Authentication & Authorization project and the Distributed Media Servers pilot project.
	IT Resource Measures and Goals	Establish IT Resource Capacity Planning Measures which comprise an inventory of present status and goals at UW System institutions for major IT areas, such as faculty and student IT resources, networking and classroom technology	The UW System Council of Chief Information Officers has established IT Resource Capacity Planning Measures.
	Inter-Campus and Statewide Network Access Links	Establish statewide "backbone network" to inter-connect the UW campuses and other educational institutions.	The Biennial Budget includes funding to connect all UW campuses together by 1998. This funding has allowed for the planning of a statewide educational network including the WTCS, the Department of Public Instruction and WiscNet as part of the statewide BadgerNet project.
	Upgrades of On-Campus Networks	Ensure that all UW campuses have adequate network capacity and electronics	The Biennial Budget includes additional funding to support this project.
	On-Campus Technical and Instructional Design Support	Establish ongoing instructional design support, just-in-time technical support, and ongoing hardware and software maintenance at each institution.	The Biennial Budget request included funding and staffing for technical and instructional design support. Funding was received for the overall area of curricular redesign; however, no FTE was provided in the request.

## II. Major Issues/Projects and Progress-to-Date

Theme	Project	Description	Status
<i>Infrastructure Resource Plans</i>	<b>Electronic Classrooms/Upgrade Multimedia Electronic Classrooms</b>	Ensure classrooms support technology based teaching methods.	Capital Budget funding in the Biennial Budget will allow institutions to remodel approximately 130 general access classrooms (based on 1995-97 costs per project for a similar program) to provide an environment supportive of technology based teaching methods. In addition, the Biennial Budget also provides ongoing funding so institutions can add distance education equipment in classrooms. Finally, the Classroom Modernization program allows institutions to add modern equipment in approximately 40 classrooms annually.
	<b>Distributed and Shared Education Media Servers</b>	Provide network-accessible multimedia resources for course development and delivery	A pilot project to promote the use of the Distributed Learning System (DLS) Model was completed at the UW-Eau Claire and UW-Madison campuses. Both campuses had substantial involvement of both students and faculty in this project to implement this vision of a common delivery platform of information technology-based education described in the 1995 and 1996 UW System Information Technology Plan.
	<b>Faculty Desktop Computer Enhancements</b>	Provide faculty with equipment, supplies, software and other expenses to support them in curricular redesign of their courses	Additional funding in the Biennial Budget will allow UW System to provide grants to faculty to redesign curriculum using technology

## II. Major Issues/Projects and Progress-to-Date

Theme	Project	Description	Status
<i>Infrastructure Resource Plans</i>	Electronic Library Material and Reserves	Provide access to a core collection of electronic resources, course materials (reserve reading), and license electronic data bases for UW System. Improve access to bibliographic and full text electronic research materials through consortial licensing agreements.	This past year UW libraries have provided: Encyclopedia Britannica Online, Ebsco Academic Host (full text journals,) Elsevier Science Journals, online newspapers, and more than two dozen databases in a wide range of subject specialties, such as science and technology, medicine, business, education, art and humanities.  Eight campuses have implemented electronic reserves to support courses on their campus.
	Library Information Systems	Establish a library information system for the UW System.	Senior Vice President David J. Ward appointed a Library Automation Task Force to plan for and recommend the next generation library system in November, 1996. Request for Information (RFI) issued in November 1996. Request for Proposal (RFP) will be issued in 1997. Anticipate a new library system will be selected in early 1998 with first campus migrations occurring late spring/early summer of 1998

## APPENDIX 2

### **REPORT OF THE VICE CHANCELLORS' WORKING GROUP ON ACADEMIC PROGRAMS AND INSTRUCTIONAL TECHNOLOGY PLANNING**

**Working Group Members:** Vicki Lord Larson, Provost, UW-Oshkosh (co-chair); Lee Alley, Associate Vice President, UW System Administration (co-chair); Howard Cohen, Provost, UW-Green Bay; John Wiley, Provost, UW-Madison; Kenneth L. Watters, Provost, UW-Milwaukee; Ralph Curtis, Interim Provost, UW-Platteville; Marie Wunsch, Provost, UW Colleges; Kevin Reilly, Provost, UW-Extension; William Meyer, Provost, UW-Stevens Point; Marvin Van Kekerix, Dean, UW-Stevens Point; Bob Jokisch, UW System Administration (staff).

The Vice Chancellors' Working Group on Academic Programs and Instructional Technology Planning was established by Senior Vice President David J. Ward with the charge of "...addressing means to have academic program needs drive the IT activity that is evolving in the UW System and its institutions." To address this charge, the Report of the Working Group is divided into three sections:

- I. Preface
- II. Academic Issues for Information Technology Planning
- III. New Opportunities/Challenges Resulting from Information Technology

#### **I. PREFACE**

Changes in our society are raising new questions about the nature and mission of higher education:

- How can we assure that our curricula and program offerings are appropriate for the times: that they strike a reasonable balance between disciplinary rigor and interdisciplinary breadth; that they change with societal needs, while maintaining stability; and that they are not solely "market driven" but, instead, continue to serve the full range of human interests and values?

- What is the nature and mission of public higher education? How can we support our academic goal of providing services to additional segments of the population? Who pays and who benefits? How do we determine who is to be served with limited resources?
- How can we support the evolving teaching mission in higher education, broaden student learning opportunities, increase student access to instruction (reducing the time- and place-bound nature of much of today's instruction), and improve the quality of instruction?

## **II. ACADEMIC ISSUES TO GUIDE INFORMATION TECHNOLOGY PLANNING**

The aim of this document is to provide a context for Information Technology planning. The highest priority academic needs, and the direction of change in those needs, should drive information technology strategies. The Vice Chancellors' Working Group on Information Technology and Academic Planning have designated four areas of most pressing academic needs which they believe can be addressed through responsive Information Technology Planning.

Based on recommendations of the Vice Chancellors' Working Group on IT Planning Guidelines, the UW Vice Chancellors and Sr. Vice President's office will draft, by February 1, 1997, a consensus statement of the compelling academic needs of the university which should guide planning for learning and information technologies. The VC Working Group will join the CIO Council meeting in February, to brief the CIO's on these recommendations. The CIO's will then be invited to a joint meeting with the UW Vice Chancellors in March, to begin setting the agenda of key technology directions for the UW System.

### **1. Enhance Learning Quality and Innovation**

*Academic programs, courses, and teaching/learning methods need to remain at the highest possible quality and provide long term benefits to students. Institutions need to examine new and better methods for instruction-related research, course design, instructional delivery, academic assessment and credentialing/certification which will facilitate the greatest enhancements to quality and innovation in student learning.*

Examples of Specific Challenges:

- Enable instructors to focus their time and effort on the most productive learning activities for their students.
- Encourage more cooperative and interactive learning among students.
- Increase and improve the quality of instructor/student contact outside the classroom.
- Provide an encouraging environment for experimentation with new models of Teaching and Learning.

**2. Respond to Changing Education Needs of Learners**

*The learning needs of individuals, communities and employers of Wisconsin continue to evolve. The scheduling, location, and delivery of learning opportunities should adapt to these changing patterns of learners' needs. As the time, place and systems of our interactions with students evolve, we should continue to support the total student experience across the institution, including student and academic services.*

Examples of Specific Challenges:

- Reduce the time- and place-bound nature of much of today's instruction, in balance with continued support for traditional instruction.
- Support the concept of individuals being lifelong learners.
- Shorten time to degree, and align degree programs with statewide needs.

### **3. Provide Support of Instructional Mission**

*History and traditions confirm that when academic departments are provided with an essential enabling environment, they can and will provide progressive and responsive stewardship of the instructional mission. In order to adapt curricula and courses to changing demands for higher education, academic departments require: (1) the Tools; (2) the Time; (3) the Technical skills; and (4) the Tradeoffs for extra effort. In return, the University's external constituencies should be informed about practical assessments of the University's overall progress in this area.*

Examples of Specific Challenges:

- Provide faculty development opportunities that will keep them on the cutting edge in teaching, scholarship, and service.
- Help instructors recognize the most effective and efficient technologies to accomplish their objective, rather than opting for the most glamorous and often most expensive technology available.
- Help faculty become facilitators of active, collaborative student learning.
- Improve the process of rewarding and recognizing faculty efforts to advance UW's instructional mission.

### **4. Enhance Partnerships with a Wide Variety of Organizations, to Better Integrate Students' Learning Experiences**

*As learning becomes more of a lifelong endeavor, students need to integrate previously disparate learning experiences, where they live, work and learn. Issues of student productivity and convenience across separate education providers and across time are becoming more significant. In addition, as economic and staffing pressures tighten within teaching institutions, new modes of inter-institutional collaboration need to be created, to support both developing and delivering instruction.*

Examples of Specific Challenges:

- Promote K-12 collaboration to maximize use of all resources (personnel and nonpersonnel) to enhance student learning.

- Deliver more college-level learning in the high schools.
- Position higher education in the global marketplace.

### **III. NEW OPPORTUNITIES/CHALLENGES RESULTING FROM INFORMATION TECHNOLOGY**

In addition to the most central academic issues that might be addressed through Information Technology Planning, there are a number of opportunities or challenges which result from developments in Information Technology. Challenges such as these should also be addressed:

- Coping with the tremendous explosion of instructional technology and information in cost/time efficient ways.
- Providing a basic IT infrastructure across campus, which provides for both access to technology and the support necessary to keep technology operational.
- Determining what management, governance, and organizational structures will best foster integration of new approaches to instruction and scholarly activity into faculty work.
- Reconfiguring the UW System and its component units to exploit the opportunities and confront the challenges triggered by new technologies.
- Sorting out the alternative choices in new delivery systems and then funding the needed investments in a Systemwide/Statewide compatible delivery infrastructure.
- Identifying possible workload measures that reflect changing instructional strategies to supplement and/or replace existing measures.
- Reconceiving the role(s) of faculty to take into account new opportunities involving outreach and continuing education.

- Providing access to technology and technology support for all instructional staff, not just faculty but also part-time instructors, comparable to that provided to our students through the various technology funds.

## APPENDIX 3

# SYSTEMWIDE CONFERENCE ON “LEVERAGING THE SYSTEM”

The Systemwide Conference on “Leveraging the System” was hosted by Council of Chief Information Officers and Vice Chancellors’ Working Group on Academic Programs and IT Planning which included experts from UW System institutions on core university functions

The purpose of the Leveraging the System Workshop was to begin developing new ideas for inter-campus collaboration, that will help departments and individuals in core university functions (not necessarily related to information technology). These ideas will help guide development of the 1997 Systemwide Information Technology Plan, plus various other Systemwide planning activities.

### I. Instructional Design and Pedagogy

#### A. Challenges

1. Providing support resources for innovative instruction (training, expert support, faculty time, faculty rewards)
2. Measuring improved teaching and learning

#### B. Opportunities

1. Improved learning through training and information sharing for faculty and instructional staff
2. Faculty/student collaborative learning opportunities
3. Expanded access
4. Research on effectiveness of innovations (assessment)

#### C. Recommended Projects

1. Systemwide Teaching and Learning Conferences with campus teams
2. WWW pages of campus experts and other instructional resources

3. Campus workshops and brownbags
4. Systemwide funding for faculty release time and support for teaching and technology
5. Quality awards for innovative teaching

## **II. Delivering Instruction**

### **A. Challenges**

1. Faculty, staff and student training
2. Technological infrastructure (facilities, interoperability)
3. Traditional structure versus new needs (e.g. traditional 50 minute class schedule)
4. Lack of rewards for collaboration

### **B. Opportunities**

1. Access to information (WWW/Networks)
2. Collaboration
  - a) Shared institutional resources
  - b) Increased student/faculty interaction
  - c) Increased student/student interaction
3. Transform passive learners to active learners
4. Opportunity to develop whole student (culture, leadership)

### **C. Recommended Projects**

1. Improve instruction through team teaching, student research, and faculty mentors
2. Corporate partnerships to support professional development and Systemwide collaboration.
3. Shared development and use of curriculum materials.

### III. Research and Scholarship

#### A. Challenges

1. Resources needed for libraries and technology
2. Reduced federal funding
3. Lack of collaboration due to narrowing fields of inquiry, lack of time to share, isolation of smaller campuses, departmental boundaries and faculty reward system
4. Competition with teaching and administrative responsibilities
5. Copyright restrictions and other barriers to intellectual resources

#### B. Opportunities

1. Cooperative library purchases, Systemwide licenses and other sharing of resources
2. Virtual communities through electronic communication
3. Redefine scholarship
  - a) Research on teaching and learning innovation
  - b) Using undergrads in research and scholarship

#### C. Recommended Projects

1. More effective utilization of resources
  - a) Re-negotiate fair use of copyrighted material
  - b) Extended and flexible use of electronic publications
  - c) Global digital library
  - d) Share grant support services
2. Promote collaboration
  - a) Systemwide faculty/staff research interest database
  - b) Develop models of team-based rewards
  - c) Develop multiple career track models
3. Integrate research and scholarship with other responsibilities
  - a) Provide research internships for students (across campuses)
  - b) Created models of faculty/staff/administrator position descriptions which include innovation as part of responsibilities

4. Define, accept and reward alternative models of scholarship
5. Enhanced opportunities for faculty exchanges and visiting scholars

## **IV. Student Academic Support and Campus Life**

### **A. Challenges**

1. Work cooperatively rather than collaboratively on areas such as students of color
2. To provide continual help to students with personal problems such as alcohol and drug abuse
3. Need to expand advising while resources are decreasing
4. Professional development for staff in areas such as technical skills

### **B. Opportunities**

1. Technology can reduce mechanics of advising (e.g. DARS, TIS)
2. New technologies can provide services to wider audiences (7 days per week/24 hours per day)

### **C. Recommended Projects**

1. Identify and expand needed student services (learning, living)
2. Advising - common course numbers, DARS, TIS
3. Initiate dialogue to determine how diversity should be defined
4. Expand outside of classroom learning/services (practical experience, community service)

## **V. External Collaboration**

### **A. Challenges**

1. Time and resources
2. Higher education culture of individualism and discipline orientation

3. Restrictive policies and procedures (including reward system)
- B. Opportunities
1. Improved student learning through shared data, faculty and technology resources
  2. Expand sphere of influence of and support for higher education
- C. Recommended Projects
1. Develop regional technology councils for telecommunications around Badgernet nodes
  2. Create partnerships with the Department of Development (DOD), Wisconsin Manufacturers and Commerce (WMC), and others to effectively use university resources in supporting national and international business

## **VI. Administrative Services**

- A. Challenges
1. Limited resources
  2. High expectations for communication
  3. Inflexible rules and regulations
  4. Cross campus communication problems (who to contact?)
  5. Barriers between Faculty and Administrative Services
- B. Opportunities
1. Reduced technology costs, improved technology and increased interoperability
  2. Increased understanding of and access to technology and information
  3. Collaboration between institutions and sharing best practices

C. Recommended Projects

1. Attain flexibility in budget, human resources and procurement
2. Collaboration on Best Practices projects

## APPENDIX 4

### **1997 IT Plans of UW System Institutions**

In each odd numbered year, UW System institutions submit information technology plans to UW System Administration. These plans serve an important role in the planning for the use and future directions for information technology at each UW System institution. In addition, these plans serve as the basis for Systemwide information technology planning by the Chief Information Officers, culminating in the annual UW System IT Plan submitted to the Board of Regents. Listed below are summaries from these institutional IT Plans:

A. Primary Needs and Associated Major Changes Planned for Academic Programs

1. Facilitate the student learning experience
2. Improve communication and sharing of information campus wide
3. Support changes in undergraduate and graduate education
4. Support the teaching, research, and service mission of the University of Wisconsin System
5. Support faculty in redesigning courses for the 21<sup>st</sup> Century
6. Improve distance learning capabilities to allow UW System institutions to better achieve the Wisconsin Idea
7. Forge stronger partnerships with K-12, WTCS, and the business community
8. Enhance student support services provided to students

B. Most important IT related opportunities that should be addressed Systemwide

1. Collaboration with K-12 teachers in planning for use of new technologies
2. Work with DOA to remove unnecessary IT approval process for purchases of hardware, software and telecommunications services
3. Shared learning resources such as Systemwide licenses for library electronic databases
4. Systemwide collaboration on instructional technology training and faculty development

5. Shared staff expertise - establish a pool of "experts" on IT who could be consulted by faculty and staff throughout UW System
  6. Systemwide standards on IT to allow for interoperability
  7. Systemwide technology contracts
  8. BadgerNet
- C. Most important IT related challenges that should be addressed Systemwide
1. Making fundamental changes to the personnel system to aid in the retention and recruitment of IT personnel
  2. Managing the "Year 2000" issue
  3. Providing disaster recovery
  4. Dealing with different academic calendars which inhibit campus cooperation
  5. Rapid changes occurring in higher education and the ever changing expectations of our customers
  6. Providing additional human resource support especially in conjunction with funded learning and information technology initiatives
  7. Establishing and maintaining adequate campus network and Internet services
  8. Keeping pace with evaluating and implementing new technologies, software and support services
- D. Funding Priorities for IT applications areas, assuming no new funding
1. Enhance network services to meet increasing demands
  2. Upgrade faculty and staff workstations
  3. Provide more technology information/training for faculty and students (general and specific), and in settings outside of class
  4. Enhance Help Desk for user support needs
  5. Students' remote instructional needs (dial-in access and technical support)
  6. Multimedia technology for classrooms
  7. Distance learning equipment
  8. On-line academic information (library services)
- E. Institutional plans to address the "Year 2000" issue
1. Newsletter articles
  2. Project managers named

3. Migration of administrative systems to new platforms (e.g. PeopleSoft)
4. Part of the maintenance of existing systems
5. Individual colleges and departments appointing coordinators and developing plans
6. Rewritten COBOL programs
7. Purchase of new software/software upgrades

**F. MAJOR IT PROJECTS PLANNED AT UW SYSTEM INSTITUTIONS OVER THE NEXT TWO YEARS**

Institution	Project	Description
UW-Eau Claire	<p><b>Informational Technology in the new baccalaureate degree</b></p> <p><b>Hypatia Project</b></p>	<p>This project draws a tight focus on creating new information and instructional technology experiences for students at the Capstone, Freshman Seminar, Service Learning and Faculty/Student Collaborative Research levels. This will be achieved by creating new levels of access to libraries and information resources, new student computing laboratories and new classroom capabilities supporting both the faculty and the students. This vision is exemplified by our project exploration in the role of notebook PC's in a Capstone Course.</p> <p>A project to bring 3D Color Graphics, Animation, Modeling and ATM-Level Networking to teaching and learning environments beginning in the Sciences and expanding to virtually every discipline on the campus. This project will support faculty initiatives to create new laboratory experiments, faculty/student research projects and classroom applications on the campus network. These new applications will then be available to the traditional classroom and to the "New Classroom" as it is currently being redefined through the New Baccalaureate Degree. This project is a part of a larger strategic direction that is bringing the information and technology organization (ITM) into a stronger integration and support linkage with the curriculum.</p>
	<p><b>Student Advising, Recruitment and Retention</b></p>	<p>New computing environments will allow faculty, staff and students to interact in highly responsive administrative computing systems supporting the total student life experience. A strong focal point will be the Student Advising transaction.</p>
UW-Green Bay	<p><b>Network Services</b></p> <p><b>Computer Replacement</b></p>	<p>UW-Green Bay has recently completed its goal of providing network connectivity to all faculty and staff in their work environment and students in the computer labs. This year's priority is to plan a migration from the current NOS and client OS to improve network performance and desktop functionality. The campus will also be integrating BadgerNet services to enhance Internet access and Distance Education delivery methods.</p> <p>While the institution has achieved 100% connectivity for faculty and staff, many of these computers are low end 386 and 486 models. Several of the student computer labs also have lower end computers. As the campus migrates to a new NOS and client OS, these computers will become obsolete. A top priority for this year is to develop a computer replacement plan which will preserve a basic level of functionality for all university users.</p>
	<p><b>Integrating Technology to Enhance Student Learning</b></p>	<p>The Learning Technology Center was established two years ago with the purpose of assisting faculty in integrating technology into the student learning experience. The first two years focused on providing a place for faculty to try out new technologies and a place to consult with faculty colleagues (early adopters) who had implemented new technologies into their courses. This year there will be an emphasis on providing instructional design support to assist faculty in developing web pages for their courses and integrating presentation applications in their courses. In addition to the Learning Technology Center, the campus will continue to increase the number of "electronic classrooms" which support the integration of technology into the student learning experience.</p>

**F. MAJOR IT PROJECTS PLANNED AT UW SYSTEM INSTITUTIONS OVER THE NEXT TWO YEARS**

Institution	Project	Description
UW-La Crosse	Computer Upgrades	The institution established a program to upgrade desktop computers for faculty and teaching academic staff. The goal was to replace 286, 386 and 486 computers with computers with a minimum processing speed of 133 MHz, CD-ROM features and 32 RAM. One hundred and ten desktop computers were purchased during the 1996-97 fiscal year.
	Year 2000	The Year 2000 problem was identified as a top priority and the COBOL programmers in Computer Services began the process of correcting date sensitive files and records. HR and Accounting Systems have been completed and entire mainframe system will be completed by February 1998.
	Ethernet Upgrades	Networking Services Staff implemented a planning process to upgrade the current Ethernet system to a faster topology. As a result of their plans and a consultant report, the campus network will be upgraded to an ATM environment.
UW-Madison	Network Services	UW-Madison is embarking on a series of integrated networking projects to support evolving network applications such as Distance Education, and to provide virtual networks serving distributed departments such as Library and School of Education, independent of geography. Project components include upgrading the Network Operations Center, expanding the dial-in modem pool, offering ATM-based dedicated bandwidth for such media as video, and providing a high-speed ISDN dial service.
	Technology in Instruction and Distance Education	Support will follow the "Plan for Application of Technology in UW-Madison Instructional Facilities." By mapping "technology zones" and identifying "technology-intensive buildings" within the zones, more readily available support will be provided for faculty at their desktops to address the everyday technical problems. Technology-equipped lecture halls and classrooms, including New Media Centers and two-way video rooms, will be clustered and supported by building-based on-site technicians. Discipline-focused resource and technology centers will be established and staffed with instructional designers, trainers and technologists.
	Distributed Applications Systems	UW-Madison is in the process of replacing its student records systems with an Integrated Student Information Systems (ISIS) that will be in operation 24 hours/day, 7 days/week. Unlike the current system which was designed in the late 1960s and is difficult to enhance and access, ISIS will be built on a purchased product from PeopleSoft, Inc., and provide students with self-guided electronic tools. Plans call for the system to be operational in time to obviate the Year 2000 problem. System prototyping will begin summer of 1997 with the first system components moving into production in mid 1998.
UW-Milwaukee	Mainframe Rehosting	Transferring all student and administrative computing systems from an IBM proprietary hardware architecture and database to an open systems architecture utilizing the Unix operating system and the Oracle relational database product is perhaps the most critically important project for UWM in the next two years. The project will free valuable university data for more effective use by students, faculty, academic advisors and administrators.
	Networking	Continuing the expansion of the campus network and providing connectivity to faculty, students and staff remains our chief strategic priority. As rapidly as funds become available we are extending network capabilities on campus. In addition, we are actively engaged in the development and continued support of BadgerNet, WiscNet, and Internet 2 connections at UWM.
	Enhanced Collaboration and Campus Services	Leveraging resources throughout the campus to achieve improved communications and collaboration between and among technology professionals is a major goal in the coming year. By enhancing the relationships between centralized and decentralized personnel we plan to improve service levels and increase cooperation among the units. A renewed interest in establishing and maintaining campus standards and building stronger ties among the affected staff are expected results of empowering our technology work force on campus.

**F. MAJOR IT PROJECTS PLANNED AT UW SYSTEM INSTITUTIONS OVER THE NEXT TWO YEARS**

Institution	Project	Description
UW-Oshkosh	Implementation of PeopleSoft's Student Information System (SIS)	IT will work with user departments (Admissions, Registration, Student Financials, Financial Aid) to implement a client-server SIS; some modules will be implemented by Fall 1998 and the remainder in 1999. IT is devoting substantial human resources to the project. The new SIS will replace a legacy Student Master File. It will deliver significantly expanded access to student information and data for institutional planning. Further information can be obtained from our Web page at <a href="http://www.uwosh.edu/sis/">http://www.uwosh.edu/sis/</a>
	Addressing the Year 2000 Problem	IT will work to ensure that mission-critical administrative systems, central servers, and student labs are Y2K compliant. IT will work with other units and departments to assist in identifying locally used software that is not Y2K compliant and to identify solutions.
	Extending Video to General Classrooms	The campus cable TV system will be expanded with the installation of cable TV drops in 140 general classrooms. This will create a distributed cable system that allows transmission of a variety of live or recorded video sources (satellite broadcasts, videotapes, or live broadcasts) to all general classrooms.
UW-Parkside	Curriculum Design Support Service Center	UW-Parkside plans call for the establishment of a curricular design support service for faculty interested in using new technologies for instruction. The center will include staffing and hardware/software resources. Faculty who have pioneered in this area will be key players, but the plan also stresses the need for drawing in other faculty as well.
	Computer Replacement	UW-Parkside plans call for the implementation of a desktop computer replacement plan. A farsighted plan was developed and discussed a few years ago, but funds for implementation were not forthcoming. It is now clear that desktop computing is a utility and that a replacement plan which meets the basic administrative and academic needs of the university has reached top priority status.
	Computing Assistance Center	In July 1996 UW-Parkside established a Computing Assistance Center (CAC) to serve as a centralized support service for faculty, staff and students with computing and networking questions and problems. The center is staffed by employees from every part of Information Services, including all areas of the library, media services, applications programming, operations, and networking and microcomputer services. User feedback forms and statistics show that the Center had a successful and busy first year. CAC staff have planned objectives for the 1997/98 after a discussion of evolving campus needs and user expectations.
UW-Platteville	Integrated Student Information System	Implementation of an integrated student information system, PeopleSoft. We are eliminating our legacy COBOL system for reasons of Year 2000 and exhaustive maintenance requirements. We are hiring a PeopleSoft implementation team currently and are planning a Fall '98 rollout.
	Single Campus Network Operating System	Shift to a single campus network operating system, Novell, for all servers. Our campus has had fragmented servers (28 servers) and various NOS types and versions which has led to very difficult management of these systems. We are upgrading desktop operating systems and network OS clients on each desktop during the summer and fall, including installation of an anti-virus client. Further plans in this project include implementation of the network management software ManageWise, and the groupware product GroupWise.
	Improved Network Capacity	Planning, purchasing, and implementing adequate network capacity. Completion of the building structured wiring project leaves us with connected buildings and offices, but little electronics. We are actively planning the network design and hubs/switches that we need and will seek funding to connect our classrooms and labs to the network.

**F. MAJOR IT PROJECTS PLANNED AT UW SYSTEM INSTITUTIONS OVER THE NEXT TWO YEARS**

Institution	Project	Description
UW-River Falls	Infuse Technology into the Curriculum	<p>This has been a declared goal of the University for nearly three years. Goals related to teaching and learning support include the following: to develop technological resources for teaching and learning; to establish and maintain state-of-the-art capabilities related to communications and information brokerage; to create a professional development process to excite and assist faculty in maximizing the instructional potential of learning technologies; and to configure resources necessary to infuse information technology into the curriculum to promote active learning that is pedagogically and empirically sound.</p> <p>IT projects supporting these efforts include completion of the four Technology Enhanced Classrooms (TECs) with full multi-media and network capabilities, 6 mobile TECs which will provide computer presentation capability with LCD projectors, network and document cameras, and a faculty/staff file server on the campus LAN for preparation, storage of and campus-wide access to instructional materials. Further, we plan to provide continued support to distance education efforts.</p>
	Extend and Integrate Campus LAN Services	<p>Efforts underway to achieve this include: migrating all Novell 3.1x servers to Novell IntraNetwork to provide necessary functionality, integration and tools for effective management of personal computer LAN services; consolidate standard ADN and ANET network software packages into a single network installation suite, creating the necessary routing so that Novell, AppleTalk and TCP/IP protocols are present on all campus LAN segments; installing 100 new desktop computers and network connections acquired in the faculty/staff computer purchase; provide network support for Technologically Enhanced Classrooms; plan and initiate new strategies for the backup of faculty and staff personal computers; develop a plan for the connection of, and continuing support for, student computers in residence halls to the campus LAN; and plan and initiate efforts to install new higher bandwidth network technologies to support the continued growth.</p>
	Develop Enhanced Information Technology Infrastructure	<p>Supporting projects include: implementation of a new automated admissions system utilizing relational database technology and a GUI interface; choosing and implementing a new voice mail system; and replacement of the current campus telephone system and/or its component services. In addition, a University-wide Information Technology Help Desk is being implemented. It will be supported by Professional Help Desk (Ph.D.) software that is now being installed and tested. Finally, efforts are underway to improve user service, microcomputer support and telephone and electronic repair with the addition of two new positions.</p>
UW-Stevens Point	Teaching and Learning Support	<p>We will provide more opportunities for faculty to use technology in support of their teaching. These will require technical training and instructional design support from Information Technology.</p>
	Administrative Applications	<p>This includes a move to web-based delivery to end users and the implementation of new financial and personnel systems in conjunction with re-engineering the underlying business processes.</p>
	Network Migration and Upgrades	<p>The campus network must be upgraded to accommodate a tremendous increase in campus demand. We must also be ready to provide additional services as Badgernet comes on-line. We will increase our use of 100-megabit Ethernet and add gigabit Ethernet and ATM as appropriate.</p>

**F. MAJOR IT PROJECTS PLANNED AT UW SYSTEM INSTITUTIONS OVER THE NEXT TWO YEARS**

Institution	Project	Description
UW-Stout	Network Upgrade	The campus is currently operating in a LAN environment in which all users are served by shared 10MBS access provided through a central switch. The single switch divides the campus into 18 segments. Our intention is to provide each user with switched 10MB access via in-building switches connected through an ATM Backbone.
	Helpdesk Software	The campus is planning to implement World Wide Web-based Helpdesk software. We anticipate this new service will be available during the fall semester.
	Datatel Implementation	We will continue with the implementation of the integrated system Transaction and Information Access project.
UW-Superior	Webmaster	Hiring a Webmaster who will help develop and refine UW-Superior's Webpages for marketing and recruiting, provide expertise and support for the new library automated system, assist faculty in using the Web for learning and teaching purposes, particularly emerging groupware programs, facilitate access to academic information for faculty, students, and staff, and aid in office automation migration is a priority project for 1997-1999.
	Equipment Replacement Cycle	Development and implementation of a four year replacement cycle for all microcomputers, concomitant with providing relief for maintenance costs, is also a priority for the biennium.
	Improved Instructional Delivery	Improving UW-Superior's capacity for delivering instruction via interactive video to sites in the University's service area is an important project for the forthcoming biennium. Capacity will be expanded by increasing the capacity of existing distance education systems and/or through transition to emerging technologies.
UW-Whitewater	Acquisition and Implementation of an Integrated Administrative Information System	UW-Whitewater has purchased PeopleSoft's Student Information System (SIS), Financials, and Human Resources Management System (HRMS) to replace the existing mainframe-based legacy systems. It is expected that the new client/server environment will enhance user access to institutional data, improve operational efficiency, and provide Internet- and intranet-based student support services. Implementation of Financials will begin in September of 1997 with the production date of July 1, 1998. Prototyping of SIS will begin as soon as the first release is available at the end of 1997. Sections of the HRMS will be brought up as a part of the SIS installation.
	Enhanced Support and Training Services for Faculty, Staff, and Students	In the last two years, the General Access Computing has increased from 240 to 450 workstations, the multimedia-ready high tech classrooms has increased from 10 to 25 in number. It is anticipated that there will be nearly 40 such classrooms in the next two years. In addition, there are about 30 plus discipline-specific computer labs across the campus. With the completion of the campus wiring project, all instructional and administrative buildings and residence halls are now connected to the campus network. The drive toward delivering distance education courses over the Internet, the general dependency on both Internet and intranet for both academic and administrative functions, and the ubiquity of information technology on campus require preventive as well as just-in-time support for the entire campus community. A variety of options including student internship will be tested as ways to address the issue of staffing shortage.

**F. MAJOR IT PROJECTS PLANNED AT UW SYSTEM INSTITUTIONS OVER THE NEXT TWO YEARS**

Institution	Project	Description
UW-Whitewater	Adequate Network Capacity for both Campus and Internet Access to Meet the Ever-Increasing Academic and Administrative Demands	Two years ago, the campus upgraded its campus backbone structure to FDDI and the Internet access bandwidth to a T1 line. Realizing that the planning of network capacity is always a moving target driven by user requirements, the Office of Technology and Information Resources will be working with the campus Strategic Planning and Budget Committee to establish a reserve fund for financing ongoing network upgrades when such needs are identified.
	Improvement of Faculty Access to Technology	Currently the computer ownership rate of faculty and teaching academic staff is about 85%, and 45% of them have computers that are three years or older. The Office of Technology and Information Resources administers a Faculty Computer Matching Program with a modest amount of funding. It is now seeking to increase it to \$225,000 per annum. By providing a steady stream of funding that can be supplemented with other one time funds, the campus can move toward achieving the goal of ensuring 100% faculty and staff access to desktop computing. Furthermore, it will enable the campus to begin addressing issues of life cycle budgeting and equipment obsolescence.
UW Colleges	Distance Learning Infrastructure Development Project	The objective of the Distance Learning Infrastructure Development Project is to implement a capability for delivering and receiving interactive video at all UW Colleges.
	Student & Faculty Access to Current Technologies	Using student technology fees, budget reallocations, UW System biennial budget opportunities, and other annual proposal/grant processes related to laboratory and classroom modifications and computer access funding, the UW Colleges will upgrade the resources available for student learning and the resources available for faculty computer access and faculty learning centers for the integration of current technologies into the instructional program.
	Campus Access to Administrative Data and Business Office Automation	The UW Colleges will continue to work toward improvements in the ability of campus administrators to access and utilize administrative data. Improvements in the institution's local and wide area networks, as well as in the software available on the desktop, have provided new opportunities to deliver decision support capabilities to campus administrators. Access to a data warehouse that includes student information, personnel data, and capital goods inventory data falls within the scope of this project. The objective of the Business Office Automation project is to continue to enhance the productivity of the UW Colleges business office by applying various forms of office management software to business office tasks currently being performed manually.

**F. MAJOR IT PROJECTS PLANNED AT UW SYSTEM INSTITUTIONS OVER THE NEXT TWO YEARS**

<b>Institution</b>	<b>Project</b>	<b>Description</b>
UW-Extension	Pyle Center Information Technology Infrastructure	UW-Extension programs reach more than a million Wisconsin citizens each year, with faculty and staff in every Wisconsin County and on all 26 UW System campuses. The new Wisconsin Center (recently renamed to the Pyle Center) will benefit all UW programs by providing efficient, upgraded, and expanded conference facilities and a "hub and gateway" for distance education network services. The center will enable UW System and UW-Extension to support access for students and the public across the state and nation. The Pyle Center will include the addition of telecommunications and distance learning capabilities to the existing Wisconsin Center, as well as an upgrade and remodeling of existing conference center facilities. The new layout and improved technological infrastructure will enhance teaching and learning in traditional on-site conference settings, as well as through leading-edge distance education programs.
	Distance Learning Infrastructure	UW-Extension is designing and implementing video, audio, multimedia, telecommunications and computing infrastructures that can be expanded as demands grow. Developing a distributed learning infrastructure will support UW-Extension as it develops, implements, and manages its distance education courses. The infrastructure includes high-speed networking components (fiber optics, hubs, switches, and routers), scalable development and production servers, and software for the development, distribution, and management of distributed learning courses. The scale of this upgrade will depend on the number of courses deployed and students served. UW-Extension is in the process of conducting an assessment of these issues.
	Distributed Learning Registration and Student Records System	UW-Extension is rapidly moving to offer new, technology-enabled learning opportunities as well as migrating current courses from predominantly print-based to technology-enabled instruction using the Internet and other forms of telecommunications technologies. The entire course and student support structure must be reengineered to accommodate the use of distance education technologies and to make the system more robust and flexible. Enhancements will be made to the system to accommodate additional data for Internet course delivery; additional data needs for student registration, student records and services; course marketing; transcription; instructor information; course information; bookstore requirements; and on-line commerce activities.
UW System Administration	Year 2000 Implementation	This project's purpose is to assess the Year 2000 impact on UW System Administration applications, databases, and hardware. The outcome of the project is to assess, plan, and implement any changes related to the Year 2000 by the end of calendar year 1998.
	Market Research Data Coordination	This project's purpose is to gather a centralized and distributed database of market research information which will assist UW System in executive decision-making and policy management. It will also service individual institutions and consortia of institutions looking at specific market niches or enrollment dilemmas
	PMIS Redesign to IAIS	This project's purpose is to re-engineer the PMIS reporting application from the DoIT mainframe to the UW System Administration's data warehouse. Much groundwork via a Systemwide committee has already been done including a name change to Instructional Analysis Information System. This project is scheduled for completion in late spring 1998.

## Appendix 5 Current Common Systems and Offices of Coordination

### Common Software

Common System	Coordinating Office	Eau	Gby	Lac	Msn	Mil	Osh	Pks	Plt	Rvf	Stp	Sto	Sup	Wtw	Ctr	Ext	SA
Hyperion Financial Management Software	Financial Admin				X											X	X
DARS (Degree Audit Review)	Campus	X		X	X	X	X	X	X	X			X				
PACE (Degree Audit Review)	Campus													X			
TMA (Facility Preventive Maintenance)	CPB		X			X		X	X		X	X	X	X			
AutoCAD (Facilities Design and Drafting)	CPB	X		X	X	X	X	X	X	X	X	X	X	X			
Archibus (Facilities Cable Management)	CPB					X			X		X				X		
NOTIS (Library Management System)	Academic Affairs.	X	X	X	X	X	X	X	X	X	X	X	X	X	X		
MDAS (Index, Abstracting,Citation Access)	Academic Affairs	X	X	X			X	X	X	X	X	X	X	X	X		
PACLink (Shared Online Catalogs and MDAS)	Academic Affairs	X	X	X			X	X	X	X	X	X	X	X	X		
Peopleware (Registration for Extension Courses)	UW-Extension	X	X	X			X	X	X	X	X	X	X		X	X	
MAAPS (Affirmative Action Planning)	Human Resources	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
TIS Phase 2 (Institutional Information)	Academic Affairs	X	X	X	X	X		X		X	X	X	X	X		X	
TIS Phase 3 (Academic Programs & Requirements)	Academic Affairs	X	X	X	X	X	X	X		X	X	X	X	X	X		
SAM (Financial Aid)	Independent					X								X			
EPOS ( Touch Tone Registration)	Independent							X					X	X			
Telecommunications Phone Usage and Equipment Billing	Independent				X			X									
Riverview (Bookstore Point of Sale)	Independent	X		X													X
CBORD (Residence Life) Debit Card/ID	Independent					X				X				X			

## Appendix 5 Current Common Systems and Offices of Coordination

Common System	Coordinating Office	Eau	Gby	LaC	Ms	Mil	Osh	Pks	Plt	Rvf	Stp	Slo	Sup	Wtw	Ctrl	Ext	SA
BlackBaud (Alumni Foundation)	Independent		X								X	X		X			
ATT Harco (Food, Debit Card/ID)	Independent	X	X	X	X			X			X	X		X			
DataCard (ID Cards)	Independent						X				X		X	X			
Prologue (Ticket Office)	Independent		X											X			
FundMaster (Alumni Foundation)	Independent						X		X								
Student Loans	Independent		X		X										X		
Parking System (T2)	Independent			X	X	X	X					X		X			
Supply Tech STX (EDI Communication Software)	Academic Affairs	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X
American Express/Special Teams (Debit Card)	Independent								X				X				
Missouri Book Systems (Bookstore)	Independent						X										
Peoplesoft Student Administration	OWL Consortium				X		X		X					X			
Peoplesoft Human Resources	OWL Consortium													X			
Peoplesoft Financials	OWL Consortium													X			
Datatel Student Information System	Independent											X					
Oracle Financials	Independent				X *						X						
Purchasing Card	DOA				X												
Space Management	Independent				X												
Capital Inventory	Independent				X												
Stores Inventory	Independent				X												

\* Some campus departments