

Section 5.2 & 5.3: Instructional Support and Information Technology

Committee Members

Mark S. Sonntag, Chair
Department of Physics

Judith E. Adams, Editor
Department of English

Barbara Bergman
Porter Henderson Library

Rick E. Greig
University Center Program Office

Ross E. Harris
Business Manager

David Harrison
Alumnus

Patricia L. Hutchinson
Department of Nursing

Jeane Irby
Information Technology

Brady M. Johnson
Alumnus

Anita L. Loshbaugh
Office of the Registrar

Charles B. McCamant
Department of Computer Science

Robert R. Mowrer
Department of Psychology

5.2 Instructional Support

To support the curriculum, each institution must provide a variety of facilities and instructional support services (e.g., educational equipment and specialized facilities such as laboratories, audiovisual and duplicating services, and learning skills centers), which are organized and administered so as to provide easy access for faculty and student users.

They must be adequate to allow fulfillment of the institutional purpose and contribute to the effectiveness of learning. These requirements apply to all programs wherever located or however delivered.

The University is in compliance.

Angelo State University provides a variety of facilities and instructional support services to its academic community. Individual academic units maintain instructional support resources for faculty and students (*Departmental Inventories, 2000-2001*). Individual departments' support is described in detail below. Support of instruction available to students includes academic and career advising, developmental instruction, and course-related learning activities.

In addition to standard instructional support, Angelo State University has invested heavily in instructional technology in both campus-wide administrative units and in individual departments. The University has set goals and objectives related to the development of the wise use of information resources. These objectives are

1. to expand the availability and use of instructional media services, communication resources and web-based training tools available through the campus technology infrastructure to give all Angelo State University students and faculty access to online instructional services by 2002
2. to expand and simplify secure access to online electronic resources and services for students, faculty and staff
3. to enhance student/faculty interaction and foster a flexible learning environment
4. to provide training and help services to insure that all students can access and use the extended technology infrastructure, and to insure information integrity and resource security for both the ASU technology infrastructure and those using online services
5. to provide appropriate education and training for support personnel to stay up to date in the ever-changing world of information technology
6. to maintain current technology hardware, software, and network infrastructure in the microcomputer labs to meet the educational needs of students

7. to communicate with Angelo State University academic departments regarding new and emerging technologies and their possible application to academic technology needs
8. to encourage and foster communication among academic areas regarding their technology needs
9. to use the University Technology Committee to communicate and advocate the use of campus technology services
10. to provide instructors in each college with systematic access to a technology-intensive, multimedia/interactive classroom or lab that provides technology appropriate for their discipline with a goal of at least one classroom/lab in each classroom building
11. to maximize the number of students having appropriate technology experiences/exposure at Angelo State University (*Information Resources Strategic Plan 2001-05*, http://www.angelo.edu/services/technology/media/IR_strat_plan01-05.pdf).

Technology is transforming the traditional methods for organizing and imparting information, delivering student services, and administering the educational enterprise. Since the traditional lecture-based system for instruction is changing, Angelo State University has prepared itself to offer faculty and students access to the world's information through multimedia classrooms, computer interactive laboratories, wired residence halls, and access from off-campus sites. Much of ASU's technology infrastructure is or will soon be in place to provide the delivery system for this alternative instruction, and the University has established a thoughtful and systematic approach for future development of accessible, cost-effective, and pedagogically sound instructional resources (*Academic Master Plan, 2000*, <http://www.angelo.edu/forms/pdf/AMP4-10.pdf>).

Angelo State University currently boasts a variety of technology-based instructional resources, such as equipment and software programs for self-paced instruction, audiotapes, videotapes, tape players, laboratory equipment, and computers. Further resources for instructional support available to faculty include copy services, audiovisual media and equipment, demonstration and laboratory devices, a multimedia lab for production of multimedia instructional materials, and space equipped for use of these instructional aids.

The University has established Information Technology (IT) to manage and oversee the development of technology resources. IT is structured into four managerial units:

- Mainframe Operations—provides service and support for administrative mainframe needs
- Customer Support Services—provides help desk, instructional technology and multimedia services and supports student microcomputer labs
- Technical Support Services—provides maintenance and upgrades on servers, desktop computers and related equipment throughout the campus
- Telecommunications Services—maintains the University's data and voice infrastructure

Furthermore, IT administers the University Technology Committee (UTC). The UTC oversees several areas: Internet access, training and support; faculty, staff, and student access to web services; distance education; 21st-Century classrooms; faculty development as it pertains to distance education and 21st-Century education; academic and administrative computing; and miscellaneous technology opportunities. The membership of the UTC consists of faculty, staff, and students from several academic and administrative departments. For the past four years, the UTC has supported faculty through administering technology development grants. During the 2000-2001 school year, \$50,000 was awarded to seven faculty members for projects advancing technology in instruction (http://www.angelo.edu/services/technology/guidelines_for_proposal.htm). In addition, \$113,000 went to four departments (Accounting, Economics, and Finance; Biology; Chemistry and Biochemistry; and English) through a call for projects and selection process for departmental technology requests ranging from the purchase of a digital video camera to the establishment of a networked classroom.

In addition, IT offers information technology computer courses each semester for faculty and staff to upgrade their computer skills (<http://www.angelo.edu/services/technology/training.htm>).

A multimedia lab, located in the Mathematics/Computer Science Building (MCS), has been available to all faculty members of Angelo State University since 1996. With the recent expansion of the lab and the purchase of updated equipment and software, the lab is now also available to students for assignments that require specialized multimedia equipment and assistance. The equipment in the lab includes digital video cameras, scanners, and video editing hardware. Presentation equipment is also available, including projectors, document cameras, laptops, wireless mice, and audio equipment. In addition, this center also provides design services, consultation, and training for the more popular digital production and software tools, including *Power Point*, *FrontPage*, *Photoshop*, *Premier*, *Dreamweaver* and *Flash*. Support is also provided for web-based classroom tools, such as *Blackboard*. The training is conducted by qualified members of the IT staff or by arrangement with faculty/staff members who have experience with the software. Individualized training for any experience level or the presentation of workshops for interested groups can be arranged (http://www.angelo.edu/services/technology/it_multimedia_production.htm).

Multimedia services also include videoconferencing and satellite capabilities, which are available in the Math/Computer Science Building. A specialized distance learning classroom with videoconferencing capabilities is available in the Carr Building. The resources in this room include student and teacher cameras, push to talk microphones, personal computers and presentation equipment.

Surveys conducted by the self-study of faculty, master's level students, and undergraduate students indicate that instructional support at Angelo State University is adequate.

Faculty survey responses, presented in Table 5.2.a, indicate that computer resources, instructional materials, and laboratories are adequate to handle faculty needs.

Table 5.2.a

Faculty Responses*

Facilities	% SD	% D	% NS	% A	% SA
Computer resources are adequate.	3.5	11.6	5.1	49.0	30.8
Instructional materials/resources are adequate.	3.5	9.6	8.1	62.6	16.2
Laboratories are adequate.	11.6	18.2	7.1	43.9	19.2

*SD = strongly disagree; D = disagree; NS = not sure; A = agree; SA = strongly agree

Similarly, master's level student survey responses to questions related to instructional support at ASU, presented in Table 5.2.b, indicate that instructional resources are adequate for graduate instruction.

Table 5.2.b

Master's Level Student Responses*

To support educational programs, the university provides:	% SD	% D	% NS	% A	% SA
appropriate instructional materials.	0.0	1.8	6.0	72.0	20.2
appropriate instructional equipment.	0.0	7.1	6.5	57.7	28.6
appropriate computer resources.	0.6	3.6	3.0	52.4	40.5
appropriate laboratory equipment.	2.2	4.4	21.9	43.1	28.5
appropriate physical facilities.	2.4	6.7	12.1	54.5	24.2

* SD = strongly disagree, D = disagree, NS = not sure, A = agree, SA = strongly agree

Undergraduate student responses to similar questions are presented in Table 5.2.c. Again, strong responses indicate that ASU's instructional support is adequate.

Table 5.2.c

Undergraduate Student Responses*

To support educational programs, the University provides:	% SD	% D	% NS	% A	% SA
appropriate instructional materials.	1.1	3.4	11.7	65.3	18.5
appropriate instructional equipment.	0.0	4.2	13.6	55.1	27.2
appropriate computer resources.	1.1	4.2	4.2	51.3	39.2
appropriate laboratory equipment.	2.1	6.3	23.4	49.0	19.2
appropriate physical facilities.	1.6	10.2	14.5	54.5	19.2

* SD = strongly disagree, D = disagree, NS = not sure, A = agree, SA = strongly agree

Audiovisual and Duplicating Services

Audiovisual Services

Each department and college maintains audiovisual equipment for instructional use within its own area (Self-Study *Faculty Survey, 2000* and *Departmental Inventories, 2000-2001*), and the Houston Harte University Center (UC) and the Porter Henderson Library provide audiovisual (and many other) facilities and services for the entire campus.

The facilities, services, and programs of the UC offer a wide variety of curriculum support facilities for students and faculty. The University Center Theater, located off the circulation court on the first floor of the UC, seats approximately 180 people for meetings, workshops, and seminars. In addition, the University Center Theater, which has multimedia capabilities to support many types of audiovisual presentations, is the location for the University Center Program Council's Club Cafe and film series. The UC's C.J. Davidson Conference Center is a multipurpose complex of rooms available to registered student organizations, academic departments and colleges, and approved off-campus organizations. The Conference Center, which accommodates eight hundred people for a sit-down meal and one thousand people for an audience presentation and which has a section that can be divided into four separate meeting rooms, is ideal for large banquets, special speakers, special presentations, and other events. The Conference Center is equipped with satellite television, Internet access, videoconferencing and teleconferencing capabilities, video projection equipment suitable for *PowerPoint* or other computer presentations, a large supply of projectors, and state-of-the-art sound equipment. Many University lecture series are presented in this facility.

The Porter Henderson Library also offers audiovisual services to faculty, staff, and students. In addition to providing such usual audio-visual equipment as VCRs and CD players, the Library staff makes overhead transparencies for patrons at-cost and laminates materials for a nominal fee. For

blind, visually impaired, and dyslexic students, the Library has *Bookwise*, which scans printed materials into a computer and reads the text out loud, as well as *Books on Tape, Recordings for the Blind*, and (for visually impaired students specifically) *Optelec ClearView*, which enlarges printed materials.

Duplicating Services

All departments and colleges maintain their own printing and duplicating equipment, and the Angelo State University Print Shop can accommodate large printing and duplicating jobs for faculty, staff, and students. Employing fully automated presses for black and white offset duplicating and two Ryobi 3200 presses for color printing, the Print Shop offers printing services at lower cost to departments and student organizations than what is usually available in the San Angelo community. Turn-around is generally quick but may depend upon the number and size of jobs submitted at a given time.

The Print Shop also provides stapling, collating, folding, and comb binding services and maintains an inventory of pastels, "hot" colors, linen paper, and other specialty papers that are available on request. The Office of News and Information does most of ASU's specialized layout work and then sends it to the Print Shop electronically in *CorelDraw* format. Departments and student organizations can also give the Print Shop their print jobs on disk in *CorelDraw* format.

With the addition of the Ryobi 3200 press in 1996, the Print Shop can also produce larger sized material (up to 11x14) and two colors per side. The Ryobi 3200 PFA will print one color on both sides.

Other printing responsibilities for the Print Shop include thesis production, laboratory manuals, and many of the publicity pieces for various departments designed by the Office of News and Information. In the near future, the Print Shop will add an automatic booklet maker, which staples, collates and folds materials, as well as a new press that does offset printing on front and back simultaneously. Both these machines will increase the Print Shop's capabilities and reduce turnaround time for print jobs.

Responses from department heads from the various academic departments indicate that the duplicating services at ASU are adequate (*Departmental Inventories 2000-2001*).

Instructional Support Within Schools, Colleges, and Departments

Each department within the College of Sciences, the College of Liberal and Fine Arts, the College of Business and Professional Studies, and the School of Education requires students seeking majors in their disciplines to meet the computer literacy demands of the core curriculum (*2001-2003 Bulletin*, p.

153). The technological resources of the Porter Henderson Library also assist students with using technology (e.g. CD ROM, Internet, online databases) for their research. Many departments incorporate technology into their curricula as well. The departments provide students access to labs, computer labs or computer-based classrooms, and learning skills centers. Faculty members receive support through the use of audiovisual and duplicating services provided by their departments, faculty training, and IT support staff and services (see Table 5.2.d, “Instructional Support and Information Technology at a Glance”). Table 5.2.d summarizes the services that each department provides both the faculty and students and the support each department receives from IT. Note that not all services are appropriate for every department.

A detailed description of instructional support services at the college, school, and department levels can be found in Appendix A, “Instructional Support at ASU” at the end of this section. Appendix A is an edited summary of departmental inventories that were submitted by each academic department. The complete inventories can be found in the Departmental Inventories notebooks.

Table 5.2.d

Instructional Support and Information Technology at a Glance

Department	Labs	Computer Labs/Classes	Learning Skills Centers	IT Support	5.3 Curriculum – Tech Integration	AV and Duplicating	Faculty Training
COLLEGE OF LIBERAL AND FINE ARTS							
<i>Art and Music</i>	X	X		X	X	X	
<i>Communications, Drama, and Journalism</i>	X	X	X	X	X	X	X
<i>English</i>		X	X	X	X	X	
<i>Government</i>		*		X		X	X
<i>History</i>		*		X		X	
<i>Modern Languages</i>	X	X	X	X	X	X	
<i>Psychology & Sociology</i>	X	X	X	X		X	
COLLEGE OF BUSINESS AND PROFESSIONAL STUDIES							
<i>Aerospace Studies</i>	X	X	X	X	X	X	
<i>Accounting, Economics and Finance</i>		X	X	X	X	X	X
<i>Business Administration</i>		X	X	X	X	X	X
<i>Computer Science</i>		X	X	X	X		
<i>Kinesiology</i>	X	X		X		X	
COLLEGE OF SCIENCES							
<i>Agriculture</i>	X		X	X	X	X	
<i>Biology</i>	X	X		X	X		
<i>Chemistry & Biochemistry</i>	X	X	X	X	X		X
<i>Mathematics</i>		X	X	X	X	X	X
<i>Nursing</i>	X	X	X	X	X	X	
<i>Physical Therapy</i>		X	X		X	X	
SCHOOL OF EDUCATION		X	X	X	X	X	X

* All faculty may schedule classes in computer laboratories; thus all departments have access to these facilities. Some departments do not use them.

Findings

The Self-Study Steering Committee finds that Angelo State University is in compliance with the directives established by SACS. The instructional support services currently in place at the college, school, and department levels address the needs of faculty, staff, and students and represent ASU's commitment to the educational goals of its academic units.

Strengths

1. Angelo State University supports the curriculum with a wide variety of facilities and instructional support services. Specialized educational equipment and facilities, such as laboratories, audiovisual and duplicating services, multimedia classrooms, computer labs, and learning skills centers, are readily available across all administrative and academic departments.
2. These services and facilities are organized and administered so as to provide easy access for faculty and student users, allowing ASU to fulfill its institutional purpose and contributing to the effectiveness of learning in all programs wherever located or however delivered.
3. Classroom technology and all kinds of computer technology use for faculty, staff, and students are strongly supported at ASU.

Weaknesses

1. The Committee found that there appears to be a need for additional laboratory space in the Departments of Biology, Chemistry & Biochemistry, and Kinesiology. Money has been allocated to alleviate this problem.

Suggestions

1. A campus-wide needs assessment should be done to determine present and future laboratory space requirements for all departments.

Appendix A

Instructional Support at ASU

The College of Science

Overview

All six departments of the College of Sciences have functionally adequate laboratories, but they need additional laboratories to conduct their programs. All have computer laboratories accessible to students. Where appropriate, departments maintain laboratories that actively involve upper-level undergraduate and graduate students in research projects. All faculty members have computers in their offices.

The Roy E. Moon Distinguished Lectureship in Science brings a scientist of national prominence to the University each year for approximately two days of public lectures, colloquia, visits to classrooms, and informal discussions. This lectureship is underwritten by an annual grant to ASU from the members of the West Texas Medical Associates (*The Roy E. Moon Distinguished Lectureship in Science* brochure, 2001).

Department of Agriculture

Each faculty member has access to laboratories at the Management, Instruction, and Research (MIR) Center and the ranch and farmland next to the MIR Center. Students have access to computer laboratories at seven sites across the campus. Students are taught computer skills in ASCI 1351/1352. Students use word processing, spreadsheet, presentation, e-mail, database, and Internet browser software (*2001-2003 Bulletin*).

Graduate students have access to modern research equipment at department laboratories and use research equipment at the adjacent Texas A&M University Research Center. Each graduate student has a computer in his or her office, and the Department maintains two extra computers in the workroom.

The Department has and maintains its own audiovisual and duplicating equipment and a small library for graduate students (*Department of Agriculture Inventory, 2000-2001*).

The ASU MIR Center and Ranch are located five miles north of San Angelo on U.S. Highway 87. The MIR Center consists of classrooms, an indoor pavilion, and laboratories for teaching, research, and field day demonstrations. The ASU ranch is approximately 5,500 acres of rangeland and 500 acres of farmland that is reserved for cattle, sheep, goat, range, and wildlife research and

demonstration for department faculty and students. Laboratory classes are taught weekly at the MIR Center for Animal Science, Range Management, and Agronomy courses, giving students “hands-on” experiences (*Management, Instruction, and Research Center, Progress Report, November, 2000*).

Department of Biology

The Biology Department has a computer lab equipped with twenty-four computers, two networked laser printers, and Internet access. The lab is used for Biology 3101 labs and Biology 4480 and 6301 labs. It is also used for Biology 1301 and 1101 tutorials. The department has approximately sixteen older Macintosh computers used in 1410 and 1411 labs. In the near future, the Department plans to dispose of the Macs and move this computer instruction to the biology computer lab. The labs for 2424 and 4423 have four newer Macintosh computers used for data acquisition and analyses.

One classroom is available with multimedia presentation capabilities, and Higher Education Assistance Funds (HEAF) are available to purchase equipment for two additional classrooms. A technology grant in 2001 enabled the purchase of mobile multimedia centers and laboratory video-microscope and carts. Classroom facilities are adequate; however, upgrades of faculty office computers are not always timely.

Research space is limited. Sharing research space is often difficult because of conflicting requirements for individual research projects.

Multimedia and computer technical support is not adequate. Computer repairs and installations are very slow, and student workers vary greatly in their capabilities, a problem which is often not apparent until damage has been done (*Department of Biology Inventory, 2000-2001*). [It should be pointed out that the older Macs are beyond the experience of the student workers.]

Department of Chemistry and Biochemistry

The Department has recently purchased for faculty four new PCs to replace older Macintosh systems which were difficult to maintain. In addition, currently four PCs are available in the Department for student use, and the majority of the Department’s 2000-2001 HEAF allocation went toward purchasing eight new computers and the appropriate software to be used for molecular modeling projects by students both in formal classes and in independent undergraduate research.

The Department also purchased a laptop and projector system, as well as accessories for creating CDs used for *PowerPoint* presentations. A recent technology proposal allowed the purchase of a digital video camera. Faculty use this system, which was partly purchased from funds allocated to ASU through a Department of Education grant, to create presentations for undergraduate classes, and students use this system to develop presentations for seminar courses (required for all degrees).

Finally, computers drive virtually all modern chemical instrumentation, both to operate the instrument and to collect and analyze the data. Because the Department houses a substantial amount of modern instrumentation and since they go to great lengths to give their students “hands-on” experience with these instruments, students receive considerable computer training.

Laboratory space is adequate, although again not optimal. If student enrollment in chemistry courses increases much more, it will be necessary to hold several lab sections at night to accommodate students while keeping lab sizes small enough to ensure safety. The addition of new tenure-track faculty, who will want to conduct research, will require additional research lab space. The proposed new annex to the Cavness Building should provide a considerable amount of new lab space.

Audiovisual and duplicating services are adequate. The Department maintains much of its own audiovisual equipment (projectors, overheads), and has its own copy machine. Multimedia and computer support are also adequate. As mentioned, the department has *PowerPoint* software and computer resources for preparing presentations (*Department of Chemistry and Biochemistry Inventory, 2000-2001*).

Department of Mathematics

The Department operates a general mathematics-tutoring laboratory available for students enrolled in all mathematics classes through calculus and a developmental laboratory for students enrolled in developmental mathematics classes. Qualified graduate and undergraduate students staff both labs. Faculty members who teach developmental mathematics classes supervise the developmental lab.

The Mathematics Department has access to a wide variety of technological resources. A scanner and two laptop computers are available, and three of the classrooms are equipped with mobile workstations connected to overhead television monitors. The Department has received approval to outfit four additional classrooms with new workstations and monitors. All of the classrooms have high-speed Internet connections. Classes can meet in any of the seven campus computer labs, one of which is housed in the building. For classes that use graphing calculators, the Department has display units for overhead projectors and for television monitors, and a variety of graphing calculators for faculty use. The Department has also recently purchased a number of graphing calculators for student use in departmental teacher training courses. Aside from providing calculators to students in certain classes, the Department relies primarily on Information Technology and its student computer labs to provide technological resources for students. To support students using the labs, the Department has purchased and installed some specialized mathematical software (*Maple* and *JP Business Mathematics*) in the student labs and on the departmental server. These software packages are used in Mathematics 1303, 1311, 1312, 1321, 2331, 2332, 3301, 3311, 3333, and 3335.

Faculty members have access to technology training in a number of ways. Every semester the Department sponsors a series of “Tech Talks” to help interested faculty make better use of available technological resources. The Information Technology Office also offers a variety of classes in the use of various software packages. The Library offers classes on how to use the search and retrieval software available through RamCat. In addition, faculty members are supported in their attendance at regional, national, and international conferences about technology.

Most students and faculty report that the technological resources are quite adequate. The Department is moving proactively to continue providing adequate technological resources for both faculty and staff. Through HEAF appropriations and the use of departmental funds, the Department has recently incorporated additional software and has ordered several new faculty workstations and upgraded others. It has also acquired more mobile workstations, cabinets, software, and displays for the classrooms.

Over the past few years, the Mathematics Department has secured most of its own audiovisual requirements through departmental funds, including new monitors for several of their classrooms, overhead projectors, and several new display devices for graphing calculators. The departmental faculty and staff have easy access to three copiers. With these advances, both audiovisual and duplicating services are adequate.

Multimedia and computer support are adequate. The Department maintains its own server; has wired most of the classrooms to access the mobile workstations they have acquired; has purchased scanners, high-resolution printers, a color printer, and a CD-ROM burner; and has acquired much of the specialized software that the Department requires (*Department of Mathematics Inventory, 2000-2001*).

Department of Nursing

Nursing classes are taught in the Vincent Nursing/Physical Science Building. Nursing Learning Labs are fully equipped with the most current equipment and computer software to maximize student learning, and students use many local medical facilities in their clinical rotations throughout the nursing program.

The Department uses the Nursing Audiovisual Lab, demonstration labs, and Learning Resource Center extensively across its curriculum. Although most heavily used in the Associate Degree program, all of these learning resources are also used in the Bachelor’s and Master’s Degree programs.

The Nursing Audiovisual Lab contains five monitor stations that allow 152 nursing students to view supplemental lecture videotapes, observe clinical skills and procedures, and engage in independent

learning. A large collection of current videos is available both in the nursing building and in the University Library Media Collection. The lab also contains four computer terminals for teaching computerized medical charting used in local medical facilities. All nursing labs are open 8:00 a.m. to 8:00 p.m., Monday through Friday.

The Nursing Department has two fully equipped, hospital-oriented skills demonstration labs. Each lab contains six electronic beds, overbed tables and bedside units, blood pressure equipment, disposable gloves, simulated suction, air, and oxygen outlets, and sharps disposal containers. Infant, child, and adult mannequins are available for student practice. Teaching aids, such as overhead projectors, screens, blackboards and bulletin boards, as well as many other clinical nursing teaching aids, are also available.

The Nursing and Physical Therapy Departments share a Learning Resource Center (LRC) that houses five audiovisual monitors and eight IBM-compatible Pentium II computers in addition to the learning resources housed in the Porter Henderson Library. The LRC staff maintains a catalog of all available computer software programs and videotapes. Faculty can preview the materials and update the holdings on a yearly basis. The LRC has a large tutorial area where nursing and physical therapy students can receive assistance from peers or faculty members. LRC staff are available for supervision of student work and also make individual appointments with students to assist them with remediation and/or tutorials.

Students can take nursing courses via their home computers without having to attend regular, weekly classes. For local students without computers, the University has extended computer access at the seven campus computer laboratories. Some courses may require occasional on-campus seminars or lab activities during the semester (*Online BSN Completion for Registered Nurses*, Nursing Department brochure, 2000).

Department of Physical Therapy

The Program Director and Academic Coordinator of Clinical Education have laptop computers, zip drives, and a docking station to enable them to travel with their work assignments. All faculty members either have personal printers or are networked to the departmental printers (B&W LaserJet and Color LaserJet). Each floor where faculty members are located has a copier and a fax machine. The laptop computer dedicated to the Vincent 241 classroom has a zip drive connected to a document camera (Elmo) and an LCD projector. The Department shares a slide projector with Nursing. The Department has a digital camera/video recorder for making slides and preparing lectures, and the Vincent 241 classroom has overhead televisions for video display viewing.

Students have access to all computer labs on campus, including the one on the second floor of the Vincent Building. If producing or presenting material for classroom assignments, students also have access to the Department's multi-media equipment.

Physical Therapy classes are taught in the Vincent Nursing/Physical Science Building. The Physical Therapy Audiovisual Lab contains five monitor stations that allow eleven physical therapy students to view the contents of supplemental lectures, observe clinical skills and procedures, or engage in independent learning. A large collection of current videos is available both in the nursing building and in the University Library Media Collection. The lab also contains four computer terminals for teaching computerized medical charting used in local medical facilities. Operating hours for all physical therapy labs are 8:00 a.m. to 8:00 p.m., Monday through Friday.

The Physical Therapy Department has two fully equipped, hospital-oriented, skills demonstration laboratories. Each laboratory contains six electronic beds, overbed tables and bedside units, blood pressure equipment, disposable gloves, simulated suction, air, and oxygen outlets, and sharps disposal containers. Infant, child, and adult mannequins are available for student practice. Teaching aids such as overhead projectors, screens, blackboards, and bulletin boards are also available.

The Physical Therapy and Nursing Departments share a Learning Resource Center (LRC), as noted above. The Physical Therapy program combination classroom and laboratory is housed in Room 241 of the Vincent Nursing-Physical Science Building. The approximately 33' x 47' room contains the exercise physiology laboratory area, ten plinths, whirlpool bath, wheelchairs, and other therapeutic equipment. In addition, the room is equipped with television monitors, audiovisual equipment, a speaker's podium with loudspeaker system, white boards, blackboards, and bulletin boards. The room, which seats approximately fifty people, is used for most of the physical therapy classes as well as for the medical community physician lecture series.

The Physical Therapy Department has a modern and fully equipped human anatomy laboratory. The laboratory contains six immersion-type dissection tanks that will allow up to twenty-four students to work in the laboratory at one time. All tanks have complete accessories to assist with the dissection experience such as instrument trays, bookstands, limb holders and tissue remnant buckets. Power and manual dissection tools and instruments are maintained within the laboratory to assist students with the dissection experience. Anatomical charts and models are available within the laboratory, and multimedia products are available outside of the laboratory. The laboratory is equipped with lockers for storage of student belongings, emergency eye and body wash stations, first aid supplies, a state-of-the-art negative airflow system, computerized temperature and humidity controls, and alarm systems. The human anatomy laboratory complies with all regulations set forth by the Anatomical Board of the State of Texas. The Departmental Inventory indicates dissatisfaction with current arrangements for sharing classroom and laboratory space. Multimedia and computer support are adequate.

Department of Physics

The Department uses combination lecture-laboratory rooms, the University Planetarium, specialized advanced laboratories, a computer simulation laboratory, four research areas, a dark room, a remotely controlled astronomical observatory, and a machine shop. A student computer laboratory with a wide selection of general and special purpose software is located in the Department's building. The Department provides Internet access and e-mail to all students. Further, since Angelo State University is a regional Center of the Texas Engineering Experiment Center, physics students and faculty are provided with research opportunities related to this affiliation.

Students have access to computers, software, and the Internet in the microcomputer laboratory located in Vincent 291. Physics majors have access to computers, software, and the Internet in Vincent 146 (classroom), 147 (laboratory), 148 (laboratory), and the student study lounge. Education majors use the SEDL access center in Vincent 155. The Research Annex contains several computers with research software packages and access to the Internet available for physics majors and faculty, and faculty receive technology training within the Department, in Vincent 146. The Department provides student and faculty access to online journals through PROLA and CARL/Uncover.

The Department has piloted a physical science distance-learning program. Students and faculty in this program interact through e-mail, distributed-multimedia software, and Internet relay chat.

The Department of Physics maintains a remotely controlled astronomical observatory eighteen miles west of the campus. This facility is located on private property and is controlled remotely via a phone line connection. Since becoming operational in 1999, this facility has been used to provide an observational astronomy component to students in introductory astronomy classes. Students are able to view projected digital images of astronomical objects directly in the classroom. This facility provides approximately 1,500 contact hours to complement the astronomy curriculum each year (*Observatory Update*, Sonntag, 2000).

The Department of Physics operates a 114-seat, 50-foot diameter dome planetarium for classroom instruction. All astronomy and geology classes and introductory physical science classes meet in this facility. The University Planetarium is an advanced multimedia teaching facility that uses the star projector, special effects projectors, slide projectors, video projectors, and computer simulations in an integrated manner to assist in astronomy, geology, and physics teaching. Each year approximately 1,000 students are taught in this facility (*Planetarium Annual Report*, Sonntag, 2000).

The Department has purchased the hardware and software to construct a computer simulation laboratory to support an inquiry-based approach to physics education. This laboratory is used with the introductory physics classes. The students work in small groups on microcomputer experiments,

activities, and focused problems. web technology is used to distribute course-related material such as assignments, homework solutions, notes, and syllabi.

The Department of Physics offers advanced laboratory experiences for students in five upper division courses (Modern Physics, Solid State Physics, Quantum Mechanics, Applied Optics, and Applied Radiation Physics). All five of these lab classes use at least one computer simulation laboratory. This “hands-on” approach to undergraduate physics education has brought national recognition to the Department (*Department of Physics Inventory 2000-2001*).

The College of Liberal and Fine Arts

Overview

The College of Liberal and Fine Arts consists of the Departments of Art and Music; Communications, Drama, and Journalism; English; Government (including Philosophy); History (including Geography); Modern Languages (French, German, Spanish, Linguistics, and Russian); and Psychology and Sociology. At the present time, all faculty have adequate office space, although not always in the same building, and computers in their offices.

The College of Liberal and Fine Arts sponsors the annual University Symposium, which focuses upon significant issues facing the American people. Since its inception in 1984, 25,000 people have participated in various events and functions of the Symposium (*The Angelo State University Symposium on American Values 1984-1997*, Stewart). The College also sponsors an annual Humanities Lectureship and an annual Writer’s Conference in honor of the San Angelo novelist Elmer Kelton (<http://www.angelo.edu/dept/english/program.html>).

Department of Art and Music

The Department maintains a small computer laboratory for music students, primarily for music writing software. Additionally, a twelve-station electronic piano laboratory is available for group piano instruction and practice. In spring of 2001, the Department upgraded its recording technology, including digital audio and video technology for recording performances of all kinds.

Few if any computer resources are currently designated strictly for the Department of Art. The Department intends to alleviate this problem by providing new equipment and facilities for the proposed new Art Building, but for now no computer resources are specifically devoted to Art classes.

The computers for faculty are satisfactory for now. During advising, Art and Music students are strongly encouraged to take the Computer Music class for their core computer requirement, and the Choral and Instrumental Literature class provides opportunities for each student to show proficiency in computer usage (*2001-2003 Bulletin*, p. 231).

The Library staff does a good job of keeping Art and Music holdings current. Recordings are regularly updated, and the Art and Music faculty take an active role in suggesting purchases.

The Department has a cooperative agreement with the San Angelo Museum of Fine Arts to provide space at their facility for a ceramics studio. This new facility has excellent equipment, storage space, and room for growth. The other studios in the Art area are adequate for current needs, and plans for a new Art building are proceeding. The new building will bring much needed space, laboratories, and equipment updates.

The Department maintains an in-house service for duplicating performances (for educational purposes of performers involved) and has previous performances of all kinds available for perusal by faculty and staff.

Multimedia resources are marginally adequate. Although the Department would like to create a position for a specialist in the Visual and Performing Arts, doing so is currently not feasible because of budget restrictions that prevent both the hiring of this specialist and the development of multimedia resources to support coursework in this specialty.

The Department is supported well by Information Technology (*Department of Music and Art Inventory, 2000-2001*), and it maintains special laboratories and facilities (musical performance laboratory, vocal performance laboratory, ceramics laboratory, and recital hall).

Department of Communications, Drama, and Journalism

Communications, Drama, and Journalism students have access to several computer laboratories on campus, including one located within the Department. Faculty members travel to workshops to get additional technology training.

In most cases, classroom and laboratory spaces are adequate. However, the Department needs space to house the speech activities program and space to set up a computer network for graduate students. Multimedia equipment is adequate. The Department recently purchased a large screen projector and now has two video projection units housed in classrooms to make multimedia presentations (*Department of Communications, Drama, and Journalism Inventory, 2000-2001*).

The Department maintains special laboratories and facilities, including the photography laboratory, the modular theater, the radio & television laboratory and studio, and the Ram Page Newsroom. Curricula are supported by technology, especially in several Communications and Journalism courses required of majors and minors (*2001-2003 Bulletin*).

Department of English

The English Department maintains a state-of-the-art computer classroom dedicated to English language and literature studies. A second classroom was begun in spring 2001 with funds allocated through the University Technology Committee. The Department also teaches developmental courses and conducts tutorials for the University in a computer-assisted writing center. English faculty may schedule classes in University computer labs as well. The Department also maintains two portable computer projector systems for classroom use.

Computer lab space is adequate. The Department has easy access to the thirty-six station lab on the third floor of the Academic Building.

All classrooms in the Academic Building have been equipped with permanently installed TV/VCR units, and VCRs on carts are also available. Together with two other departments, the English Department co-leases a central copier unit. The Department maintains two other copiers and sends large printing jobs to the Print Shop.

The Multimedia Center assists faculty in developing presentations, and Microcomputer Services Center is on call to assist with technical requests.

The Language Learning Center is located in the basement of the Porter Henderson Library. English graduate students, faculty, and staff who are specialists in reading and writing staff the center. The Center offers access to editorial assistance and training for students requiring help with reading and writing problems. Instructors in all departments may send students to the Center for one-on-one aid, and students needing assistance with a writing project for any University course may drop in for advice. Over twenty computer programs are available to improve critical reading skills, develop writing competency, and increase grammar proficiency (*2001-2003 Bulletin*).

Currently, the English Department houses one computer-based classroom in which the following courses are taught: English 130, English 1301, English 3351, English 3352, English 4320, and English 4358. The department requires one or more technology-enhanced courses for students seeking teaching certification and for those seeking the writing specialization. The second computer-based classroom should aid the department with incorporating technology-supported pedagogy into sophomore literature and additional upper-division literature courses (*Department of English Inventory, 2000-2001*).

Department of Government

Each full-time Government faculty member has access to a scanner, digital camera, and a laptop computer. The Department has recently purchased the equipment necessary to turn its classrooms into a high tech environment with visuals, interactive capability, and audio. Students have access to computers at the computer laboratories across campus, including the one in the Rassman Building. Information Technology provides training opportunities on relevant software. Faculty members have also received training via the University's Faculty Development Grant Program in developing a high tech classroom.

The Department has access to equipment necessary for these audiovisual services, but the duplicating budget is not adequate (*Department of Government Inventory, 2000-2001*).

Department of History

The faculty has access to computer and technology training. Although no faculty members currently use or have access to computer laboratories for teaching, students have access to computer laboratories in the Academic Building and the Porter Henderson Library, as well as other computer laboratories across campus. All of these laboratories have connections to the Internet.

Most faculty in the Department believe that the resources are adequate for their purposes. A few have noted, however, that the training classes available tend to focus on overly rudimentary issues. Those faculty members able to take advantage of the full range of resources come to them as self-taught experts. The time necessary to achieve this expertise is, however, very limited because of the History Department's heavy faculty workload.

Students do not generally use computers in history classes. Computer facilities are available for history students to use in every academic building on campus for out-of-class assignments.

The faculty feels that classroom space is adequate, but that putting fifty-five to sixty students in the Academic Building classrooms seriously limits the educational process.

Although adequate, purchase of audiovisual material, and even duplicating services are being eroded by limited M&O funds.

History faculty are not heavy users of multimedia and computer support. Those who have used it report that they have received good support. Some feel, however, that only those who bring expertise to the table are able to use multi-media and computer support fully (*Department of History Inventory, 2000-2001*).

Department of Modern Languages

The Department of Modern Languages has its own computerized language learning center consisting of sixteen fully equipped computer stations with Internet access that can give up to thirty-two students instruction via audio-video media. A master console allows for central monitoring of student work. The facility is reserved for faculty use during prime teaching hours. Student assistants, who are recruited by Information Technology, staff the language learning center. IT also provides classroom support, faculty training, trouble-shooting, and repair when needed. Students may complete laboratory assignments during regular opening hours or during morning and early afternoon hours under faculty supervision when the facility is not used for instructional purposes.

The Modern Languages Department is constantly updating its resources. These consist of CD-ROM and software programs supplied by textbook publishers as well as software and videos purchased by the Department to support its curricula in the areas of language, literature, and culture.

The Department regularly uses seven classrooms. All seven rooms are equipped with monitors for video showings. The Department also owns the following equipment: VCRs (4), laptop computer (1), camcorder (1), overhead projectors (3), fax machine (1), and audiotape duplicator (1), digital camera (1), scanner (1), and CD player (1).

Some areas of instructional technology should be improved. The departmental laboratory, with only sixteen stations for individual work, does not provide adequate space for classes with high enrollment. All classrooms should be equipped with VCRs and overhead projectors, and the Department should have a projector for classroom *PowerPoint* presentations. Further, the Department has some difficulties with audiotape duplication when large volumes of audiotape programs are duplicated for students. The duplication equipment may need to be replaced in the near future.

Currently, the Department monitors duplicating expenses and the equipment contract for a Minolta copier that serves five departments in the Academic Building. The current equipment is new and quite cost-efficient. A maintenance contract provides adequate support when needed. At times, high volume duplication needs lead to back up in the copy room.

Institutional multimedia and computer support are adequate for the most part. IT staff responds quickly and efficiently to problems and questions. However, students would benefit from having the language learning center support staff available in the morning (*Department of Modern Languages Inventory, 2000-2001*).

Department of Psychology and Sociology

Some class sessions in the Department of Psychology and Sociology are taught in the microcomputer laboratory in the Academic Building. All of the classrooms used by the Department have transparency projectors and VCRs. The Department also has two portable VHS cameras and two laptop computers for special projects, as well as two portable LCD projectors for multimedia classroom presentations. The faculty members regard the technology resources as adequate, but they would prefer to have permanent LCD projectors in all classrooms.

Classroom space and laboratory space are adequate. The Department currently schedules classes primarily in four classrooms (each of which has a capacity of fifty-five students) and an auditorium (capacity of about one hundred). The Psychology Laboratory was renovated and expanded recently to a size of 1,125 square feet. The psychology laboratories, located in the Academic Building, consist of nine separate rooms. Six of the nine rooms are equipped with personal computers and have Internet access. One room is equipped with state-of-the-art biofeedback equipment capable of measuring EMG, EEG, ECG, skin temperature and GSR. Equipment available for research or teaching enhancement includes two VCR video cameras, a portable television with VCR, a computerized projection system, psychological tests, such as the MMPI-2, 16PF, WAIS, WISC, CPI, and Stanford-Binet. The Department has adequate space for the administration and scoring of these tests as well as providing make-up tests and/or tutoring. One of the rooms is used as a conference room or observation room using a one-way mirror. Four graduate assistants maintain the operation of the student-oriented portion of the laboratory. The graduate assistants also maintain the video library and textbook/reference collection available for use by faculty or students.

The audiovisual and duplicating services are adequate. The Department has a small copier in the Department workroom and shares a lease on a large copier with four other departments in the College.

Multimedia and computer support are adequate (*Department of Psychology and Sociology Inventory, 2000-2001*).

The College of Business and Professional Studies

Overview

The College of Professional Studies is comprised of five departments. All faculty members in the College have computers in their offices. The College sponsors the annual Wells Fargo Business Symposium, the Center for Economic Education, the Small Business Institute, and the Small Business Development Center.

Department of Accounting, Economics, and Finance

Students have access to computers in the Department computer laboratory and the Mathematic and Computer Science Building (MCS) computer laboratory. Accounting, Economics, and Finance faculty members have new equipment and software, which are more than adequate. Courses taught either entirely or in part in a computer laboratory are Finance 2323, 4364, and 4366, and Accounting 3305 and 6313. Information Technology offers numerous, helpful classes in a wide variety of computer software packages, and the staff in the Multimedia Center is extremely helpful and responsive to requests for help, especially in updating the departmental web page.

A major proposal to transform the largest classroom in the building into a multimedia classroom has been approved by the University Technology Committee. The classroom will be ready by January, 2002. Tiered classrooms with provisions for laptops and multimedia equipment are standard at other universities. The department would like this configuration.

Three faculty members are currently using laptops and LCD projectors on carts, and the Department would like to eliminate the need for these in the next two years.

The departmental computer laboratory has forty-two machines, and these computers and software are replaced about every four years.

The copier is replaced on a regular basis, and the Department has a maintenance contract to keep it in working order. The Department operates the copier for all departments in the building.

The Information Technology staff is very responsive to requests for help in installing hardware and software and for minor repairs in the Department (*Department of Accounting, Economics, and Finance Inventory, 2000-2001*).

Department of Aerospace Studies

Audiovisual and duplicating services for the Department of Aerospace Studies are adequate. The Department maintains much of its own audiovisual equipment (projectors, overheads) and has its own copy machine.

The Department has a portable audiovisual cart that contains a VCR, computer, and video projector. Videotapes and *PowerPoint* presentations are used throughout the curriculum.

MCS 100 is used as a “lab” room to demonstrate drill and inspection procedures. All students who continue in the ROTC program attend a summer Field Training camp between their sophomore and junior years.

Goodfellow Air Force Base in San Angelo is used as a resource to the Department. Officers from the Base visit Aerospace Studies classes and present briefings. Students are given tours of Goodfellow, are given access to the Base obstacle course, or may “shadow” an officer to learn more about jobs and duties in the Air Force (*Department of Aerospace Studies Inventory 2000-2001*).

Department of Management and Marketing

To serve the Department of Management and Marketing, three computer laboratories are located in the Rassman Building, and another is located in the Mathematics and Computer Science Building, which is attached to Rassman. The Technology Subcommittee provides specific information on the number and type of machines, software availability, availability of assistance, utilization, and the like, for these computer laboratory facilities. These laboratories are readily available to both students and faculty in the Department.

The Department has one computerized classroom (RAS 111) and a portable laptop computer with a projector. This classroom is heavily used, as is the portable equipment. All faculty requests for relevant special-purpose software (such as *SPSS*, *SAS*, or *Dreamweaver*) are approved. The faculty are extensive users of technology in their classes.

Faculty access to training opportunities is outstanding. The Registrar’s office provides training on use of the student record system. There is a help line for assistance, and one-on-one training can be scheduled for those requiring extensive training. Information Technology has regularly scheduled training sessions for faculty and staff. To illustrate, the training sessions offered during the 2000 fall semester included: Windows 95/98, Word 2000, Access 2000, FrontPage 2000, and Excel 2000. In addition, IT provides training on the use of web-based technology for the classroom, such as *Blackboard.com*.

In addition, the Department of Management and Marketing's office/workroom is equipped with four PCs, a fax-printer-copier machine, two laser printers, a scanner, an Olympus (photo) printer, a television and VCR, three video cameras, a digital camera, and three laptops. Faculty have unlimited access to this equipment; students may schedule equipment use with approval from a supervising faculty member. All classrooms have televisions, VCRs, and overhead projection equipment. In addition, portable audiovisual equipment is available from the Department and the Multimedia Center.

Student surveys and faculty feedback indicate a high degree of satisfaction with the technology inventory and technology support.

Duplicating services are provided for faculty. Self-service duplication is available twenty-four hours per day, seven days per week; and full-service duplication is provided during regular business hours (*Department of Management and Marketing Inventory, 2000-2001*).

Department of Computer Science

Computer Science faculty and majors have access to any computer laboratory on campus. MCS 111A and MCS 111B are available for instructional and demonstration purposes. A special laboratory with UNIX workstations is primarily used by computer science majors and is available for instruction. Each faculty member has two computers on his or her desk, a Wintel personal computer, and a UNIX workstation. The Computer Science Department manages its own system administration needs for the UNIX lab. The other laboratories are maintained by the Information Technology Department. The Department has an adequate budget for software licenses and can use the HEAF process for upgrades to hardware. Because the multimedia facilities in the MCS Building are dated and do not work well, one of the Department's immediate goals is to modernize the audiovisual resources in the UNIX lab and in one of the classrooms (MCS 114).

Information Technology does a good job of computer support, especially considering the staffing needs they have. The Computer Science Department maintains the UNIX lab (*Department of Computer Science Inventory, 2000-2001*).

Department of Kinesiology

The Department of Kinesiology has no computer access for students in the building. They have two computerized classrooms with access to the Internet and a portable computer and desktop projector to use in the classrooms. The Department needs two more rooms equipped with Internet access and two more computerized "setups" for these rooms. Faculty definitely need more access to technology training with release time to implement this training.

Additional classrooms and laboratory space are needed.

The Department has adequate audiovisual support materials. A television, VCR, and overhead projector are provided in each classroom.

Multimedia and computer support is adequate. The Information Technology team has always been there to help the Department when needed (*Department of Kinesiology Inventory, 2000-2001*).

The School of Education

Two multimedia carts and other audio-video equipment are available for the School of Education. Digital cameras, digital video cameras, and scanners are available for special programs.

The School of Education and the Department of Management and Marketing collaboratively designed and built a multimedia computer-teaching classroom. However, this facility serves a small portion of the overall needs. Faculty teach classes in the general-purpose computer laboratories or schedule them in the general-purpose laboratories when necessary.

Instructional Technology offers a variety of training in the use of software. Two commercial instructional packages are available to the faculty: *Anlon* and *Blackboard 5*. The School has obtained two federal grants to fund the integration of technology into instruction.

Four graduate courses have been taught by distance learning via point-to-point video. During the semester of instruction, the faculty member teaches from all locations, insuring that all students have direct access to him or her. The School requires that all graduate students take a graduate level technology course or demonstrate that they already have the skills taught in that course.

Audiovisual and duplicating services are adequate though a considerable portion of the M&O budget is assigned to this function. The School uses either its leased copier or prints materials at the University Print Shop.

Multimedia and computer support is adequate. A grant from Verizon (formerly GTE) has provided funds to upgrade the School's multimedia equipment, and a federal PT3 grant has provided funds for technology support of this equipment. Information Technology offers adequate support with a small staff (*School of Education Inventory, 2000-2001*).

5.2: Instructional Support Compliance Grid

Must Statement	Compliance Status	Documentation
<i>Each institution must provide a variety of facilities and instructional support services.</i>	In Compliance	<ul style="list-style-type: none"> • Departmental Inventories • Information Resources Strategic Plan 2001-2005 • Academic Master Plan • Faculty Survey • Student Survey
<i>They must be adequate to allow fulfillment of the institutional purpose and contribute to the effectiveness of learning.</i>	In Compliance	<ul style="list-style-type: none"> • Departmental Inventories • Information Resources Strategic Plan 2001-2005 • Academic Master Plan • Faculty Survey • Student Survey
<i>These requirements apply to all programs wherever located or however delivered.</i>	In Compliance	<ul style="list-style-type: none"> • Departmental Inventories • Information Resources Strategic Plan 2001-2005 • Academic Master Plan • Faculty Survey • Student Survey

5.3 Information Technology Resources and Systems

Introduction

Since the completion of the last ASU self-study, numerous changes in information technology have occurred on the campus. While gathering data for this report, the Instructional Support and Information Technology Committee noted how dramatically technology has permeated the daily operations of the University. The departmental inventories support this conclusion. Additionally, the majority of academic departments reported an increasing use of technology in the instructional area. Angelo State University is clearly committed to using information technology to fulfill the mission of the University.

The introduction of technology into the curricula of the departments in each college can be seen in Table 5.2.d (note especially the column Curricula-Tech) and is discussed in some detail within the departmental inventories under each college.

The sections that follow report the Information Technology Resources and Systems Committee findings and address the “must” statements in Section 5.3 of the *SACS Criteria for Accreditation*. These findings are based on:

- Documentation gathered from academic department heads and faculty
- Interviews with several administrative staff members who are major technology users, including staff from the Registrar’s Office, the Fiscal Office, and the Financial Aid Office
- The University’s *Information Resources Strategic Plan* (IRSP) for the years 1999-2003 and for the years 2001-2005 (<http://www.angelo.edu/services/technology/>)
- Interviews with the Director of Information Technology and other members of the Information Technology team
- A review of the University Technology Committee’s role and accomplishments
- Customer surveys conducted by Information Technology (IT)

An institution must provide evidence that it is incorporating technological advances into its operations. A reliable data network should be available so that students, faculty and staff may become accustomed to electronic communication.

The University is in compliance.

In the years since the last self-study, the availability and use of information technology resources have spread widely across the Angelo State University campus. There are many new systems and computers and an ongoing commitment to maintain and upgrade them. IT is generally regarded as a hardworking group committed to the improvement of technology on campus and to employing

technology to advance the mission of the University (IRSP, IR Goal 2). Much technology growth has taken place since 1997, and this dynamic growth continues. The continuing theme is the movement toward the Internet and web-based applications (IRSP, IR Goal 1).

The IRSP for 1999-2003 and the IRSP for 2001-2005 contain an abundance of information about the technology infrastructure on the campus. In particular the Executive Summary (IRSP, 1999-2003, pages 4-6) provides a history and description of the technology infrastructure. The current ASU network is comprised of a 372-strand fiber optic backbone in a star topology connecting 24 buildings on campus. Within each building, an CAT 5 cabling infrastructure is deployed to the desktop and other end node devices. Presently, there are approximately 3500 network drops on campus. The entire campus network equipment is based on a switched Ethernet architecture with speeds on the backbone ranging from 100 Mbps to 1000 Mbps. Within each building, the speed to the desktop ranges from 10 Mbps to 100 Mbps.

All campus Internet traffic shares a 4.5 Mbps link to the state provided Texan III network. ASU students, faculty, and staff benefit from a wide variety of applications and services. Each member of the faculty and staff has a microcomputer attached to the network. More than 300 computers are available for general student use, and another 300 are available for special projects and classroom instruction. The hours of availability vary, the longest being 24 hours a day during the week. All student-use computers are replaced on a three-year cycle. A standard suite of Internet applications including the web, e-mail, file transfer and telnet is available on site license. Approximately 200 separate software packages are installed and supported on the campus network. Fifty megabytes of disk storage is provided on one of the campus servers with each student account. This is maintained and backed up regularly and stays with a student while he or she maintains continuous enrollment at ASU.

Students have access to the Internet through dial-up accounts. The dial-up service assists users who do not have direct access to ASU's high speed network. The dialup service will accommodate 96 simultaneous users each connecting at up to 56 Kbps. ASU has implemented monitoring tools to assist in planning for growth as demand increases for this service. A variety of web-based services are available to students. A web based registration system enhances the telephone based system and allows students to register for classes, view grades, view financial aid, and view their degree plans. Many of the Library's services are also available via the web such as searching for books in the library as well as providing links to several other remote databases which can be searched for information.

As of August 2001, approximately 50% of the on-campus ASU residents had access to the high-speed network. In Fiscal Year 2002, ASU anticipates receiving grant funding to implement a network wiring project in one of the residence halls which will increase access to the network for on-campus ASU residents to 75%.

Students who enroll in classes conducted off the ASU campus (web-based or distance learning) receive the same computer services that resident students receive. These services include dial-up, e-mail, computer lab, and library accounts.

Each year IT collects feedback through surveys from the ASU community concerning satisfaction with existing services and newly desired services. This feedback is utilized for IT's continuous improvement process, the University's Institutional Effectiveness program, the University Technology Committee and incorporation into the IR Strategic Plan.

IT works closely with the University Technology Committee. This committee is composed of University faculty, staff, administration and students. The committee is charged with overseeing the areas of Internet access, training, and support; faculty, staff and student access to web services; distance education; 21st century classrooms; faculty development as it pertains to 21st century education; academic and administrative computing; and miscellaneous technology opportunities.

Information technology resources must support the planning function and the educational program component of the institution at appropriate levels.

The University is in compliance.

The discussion in 5.3.1 of this report provides a list of some of the hardware and software infrastructure that makes up the ASU information technology system. Although hiring and keeping competent technical staff are perpetual challenges, IT personnel provide competent and prompt support for its customers so that they can have access to the resources needed for planning and reporting.

The IT staff is divided into four groups. One group supports the administrative software packages such as student records for the Registrar's Office and the Fiscal Office software. Another group is charged with customer support services. This includes the help desk, instructional technology support, multimedia labs and student microcomputer laboratories. The third group provides maintenance for servers, desktop computers and any related equipment. Finally, the last group manages the data and voice infrastructure.

The IT staff consists of twenty-five full time staff and one part-time staff members. IT relies heavily on student resources to complement the full time staff levels. Approximately seventy students are members of the IT mentorship program. This program strives to provide a learning rich environment that supplements the student's curriculum yet provides the University an economic technology support structure. These students provide support in a variety of capacities ranging from assisting

students in the microlabs to providing system administration on many production systems such as e-mail.

Angelo State University is strongly committed to the use of technology in the curriculum (*Academic Master Plan, 2000*, <http://www.angelo.edu/forms/pdf/AMP4-10.pdf>). The departmental inventories indicate the widely varied use of multimedia technology in classes across the campus (*Departmental Inventories, 2000-2001*).

Although the diversity of educational programs and goals will be a major determining factor in the selection of information technology resources by an institution, there must be a reasonable infusion of information technology into the curricula so that students exit with the fundamental knowledge and basic ability to use these resources in everyday life and in future occupations.

Institutions must provide the means by which students may acquire basic competencies in the use of computers and related information technology resources.

The University is in compliance.

As part of this study, the committee surveyed the academic departments. Each department was asked to list the types of hardware and software used by students in their classes or as a part of their study. The results of this survey are included in Table 5.2.d: "Instructional Support and Information Technology at a Glance."

The report identified a growing use of general-purpose software such as word processors, spreadsheets and databases. Internet applications such as web browsers and e-mail are often used in conjunction with chat rooms to share information. A number of departments reported the use of special purpose software and hardware. There is a growing use of the multimedia lab in the MCS building for assistance in developing materials for classroom use.

For example, the School of Education and the Department of Management and Marketing collaboratively designed and built a multimedia computer-teaching classroom. Faculty teach classes in the general-purpose computer labs or schedule them in the general-purpose labs for a specific purpose.

In another example, the Department of Management and Marketing uses a wide range of tools for courses in Marketing and Management. These tools are used for presentations, statistical analysis, project management and the study of marketing strategies. This department uses a computer lab known as "The Collaborative Lab," housed in Rassman 111. The design and use of these facilities is primarily for group projects. One computer serves a team of students while they discuss and analyze

various aspects of a problem. This design has proved very successful. Faculty members from the School of Education also use this lab and hope to equip a similar lab in the Carr Education and Fine Arts Building.

The Department of Communications, Drama and Journalism depends heavily on electronic media in a number of their courses. The Department plans to increase the use of graphics and design software in its curricula. The Biology Department has turned to computers to assist them in a number of their laboratory courses involving varied tasks, such as statistical analysis and fish farm simulations. The Computer Science Department manages a specialized lab equipped with 30 Sun Ultra 5 Workstations.

The University aids the Aerospace Studies Department through providing and supporting administrative and presentation software that students need to learn to use for their future work in the Air Force.

These are representative samples of many instances of the use of technology in ASU's academic departments. Table 5.2.d above describes departments that have integrated technology into their curriculum. Appendix A of Section 5.2 contains more detailed descriptions of the use of instructional technology in the various academic departments; the complete Departmental Inventories are available for examination.

There must be provisions for ongoing training of faculty and staff members so that they may make skillful use of appropriate application software. These requirements apply to all programs wherever located or delivered.

The University is in compliance.

Angelo State University's Information Technology team offers a wide variety of courses and avenues of training for faculty and staff members of the University community. This statement is supported in the following documents: *Information Resources Strategic Plan 2001-2005 Goal 1 – Objective 1 – Strategy 1 & 2, Goal 3 – Objective 4 – Strategy 12. Academic Master Plan Goal 5, Recommendation 49.*

Each semester, Information Technology publishes a list of courses that will be taught. These courses cover the basic set of desktop applications used by the faculty and staff, including word processing, spreadsheets, databases, presentations, e-mail and Internet browsing and publishing courses. These courses are alternated based upon demand as determined by faculty/staff participation. ASU recently signed a license agreement with Microsoft which provides faculty and staff access to the Microsoft Office 2000 Step by Step Interactive, an invaluable tool that takes a user through comprehensive training for the basic set of office products (<http://www.angelo.edu/services/technology/training.htm>).

Beyond basic desktop application training, faculty can receive one-on-one training through the Multimedia Center. The Multimedia Center is designed to provide specialized equipment as well as expertise to assist faculty with the development of multimedia materials to be used in curriculum. The Multimedia Center also provides “afternoon institutes,” courses provided by other faculty members on topics of interest (http://www.angelo.edu/services/technology/it_multimedia_production.htm).

Training for the use of administrative application software is provided by the appropriate department. For example, the Registrar’s Office is responsible for scheduling and delivering training on the University’s student records software. When a new feature or system is released, such as online degree planning, training sessions are made available to faculty and staff.

Policies for allocation and use of information technology resources must be clearly stated and consistent with an institution’s purpose and goals.

The University is in compliance.

The following documents state the policies for the allocation and use of information technology resources: *Information Resources Strategic Plan 2001-2005*, IR Priorities page 10 and the *Academic Master Plan 2000*, Goal 5, Recommendation 44:

Undertake a thoughtful and thorough evaluation of present technology use on our campus. A faculty-based committee with proven teaching skills that includes some faculty with high level technology skills and some with minimal technology expertise should carry out this evaluation. The pedagogical and cost effectiveness of different methods should be evaluated to assure that increasingly scarce financial resources are used to support the most effective methodologies. The committee should develop guidelines for establishing future technology uses.

These policies are consistent with ASU’s mission statement (*2001-2003 Bulletin*, pp. 44-45). The portions of the mission statement that apply are quoted below.

In order to promote strong educational opportunities, the University encourages programs of faculty research which add to the total body of knowledge, develop new and improved techniques of instruction, and maintain the competence of faculty members in their respective fields. . . .Both traditional and technological learning resources are utilized in instruction and research and to provide special services and programs of continuing education and distance education which contribute to the cultural and economic welfare of the region served by the University. . . . The University’s commitment to improving quality extends to its administrative services and provides support to maintain the infrastructure, expand information resources, develop technological equipment and programs for academic and

administrative improvement, ensure fiscal responsibility, and promote public safety and institutional advancement.

During each budget cycle, departments can include technology items in their budget requests. The Vice President for Academic Affairs and the Vice President for Fiscal Affairs evaluate these requests at the college level by each Dean. Budgets are then allocated based on need and available University funds. Additionally each department has the opportunity to submit requests for HEAF funds (Higher Education Assistance Funds) when they are available. These funds can be used for capital equipment purchases.

Table 2 in the *Information Resources Strategic Plan 2001-05* (pp. 10-13) contains a detailed statement of the policy and procedures for the allocation of information technology resources. The President determines the priorities for allocation by taking recommendations from the Vice President, Director of Technology and the University Technology Committee. The University Technology Committee is a diverse group of faculty, administrators, staff, and students that makes recommendations concerning access to web services, distance education, 21st century classrooms, faculty development as it pertains to distance education and 21st century education, academic and administrative computing and miscellaneous technology opportunities.

Policies surrounding information security, e-mail and web usage, and software copyright are posted on the ASU web site (<http://www.angelo.edu/services/technology>). These policies are updated as needed and upon recommendation of the President of the University, Director of Technology and the University Technology Committee. Information Technology provides standards for technology resources; these standards are used when policies are not directly stated on the ASU web site (<http://www.dir.state.tx.us/Standards>).

These policies must be evaluated regularly to ensure that academic and administrative needs are adequately addressed.

The University is in compliance.

IR Strategy 10 in *IRSP 2001-05* (page 4) states that the University will “evaluate/implement new technologies and systems that could improve operational efficiency and provide additional services.”

The IT department has conducted several customer surveys since 1997. In May, 2000, IT conducted a survey to gain information about its service and support. The results are contained in the document titled *Customer Satisfaction Survey*, pp. 41-62. Generally, these results revealed a moderate to high level of satisfaction among the faculty and staff. Twenty questions were asked and the responses were measured on a scale from one through nine, with nine as the highest ranking. The support staff scored highest on the statement: “Support staff have the knowledge to answer my questions.” Seventy-three

percent of the respondents reported a ranking of seven, eight, or nine. Responses to other questions had similar rankings.

The Committee also reviewed the mission statement with respect to its emphasis on technological innovations in the education process. The consensus of the Committee was that the mission statement adequately expresses the intent of the University with respect to the use of technological innovations in the classroom. The only change recommended was the addition of the term “secure” in the following sentence from mission statement.

The University’s commitment to improving quality extends to its administrative services and provides support to maintain the infrastructure, expand *secure* information resources, develop technological equipment and programs for academic and administrative improvement, ensure fiscal responsibility, and promote public safety and institutional advancement.

Appropriate security measures must be installed and monitored to protect the confidentiality and integrity of academic systems, administrative systems, and institutional networks.

The University is in compliance.

Angelo State University’s security assessment is described in the Information Resources Strategic Plan 2001-2005 Security (p. 14). A policy regarding information security is posted on the Angelo State University web site (<http://www.angelo.edu/services/technology/policy.htm>). This policy is regularly reviewed and updated as needed under the direction of the President of the University, the Director of Technology and the University Technology Committee. Security for critical administrative offices, the Computer Center, Microcomputer Labs and the West Texas Disaster Recovery and Operations Center (WTDROC) is protected by physical security systems such as motion detectors, closed circuit television, and pin or card access keypads. Vital mainframe resources are controlled through the ALERT (CA) security system, implemented as part of the outsourcing agreement with the WTDROC. Procedures surround the issuance and deactivation of accounts on these vital systems. Students are issued accounts upon request by presenting a student ID and are required to log on each time they use a computer in one of the micro computer laboratories. The system requires the student to change passwords once a semester, and accounts are deactivated if the student is not enrolled at the University by the twelfth class day of the current semester.

Findings

The Self-Study Steering Committee has determined that the University is in compliance with all of the standards in this section.

Strengths

1. The Committee is convinced that ASU is incorporating technological advances into its operation and that information technology resources are supporting the planning function and the educational program component of ASU. Broad evidence supports the claim that ASU is integrating information technology into the curricula so that students are leaving with the fundamental knowledge and basic ability to use this technology. ASU provides ongoing training opportunities for faculty and staff members so that they may make use of appropriate application software. The University has established clearly stated policies for allocation and use of information technology resources. These policies are consistent with the institution's purpose and goals and are evaluated regularly. ASU has installed security measures and monitors them to protect the confidentiality and integrity of academic systems, administrative systems, and institutional networks.

Weaknesses

1. Interviews with members of the IT staff indicate a frustration in the need to support a wide variety of different software and old versions of the same software package. This support takes a lot of time and expertise.

Suggestions

1. The committee suggests that an effort be made to move toward standardization of software on networked, office computers.

5.3: Information Technology Resources and Systems Compliance Table

Must Statement	Compliance Status	Documentation
<i>An institution must provide evidence that it is incorporating technological advances into its operations.</i>	In Compliance	<ul style="list-style-type: none"> • Information Resources Strategic Plan 2001-2005 • Academic Master Plan 2000
<i>Information technology resources must support the planning function and the educational program component at the institution at appropriate levels.</i>	In Compliance	<ul style="list-style-type: none"> • Information Resources Strategic Plan 2001-2005 • Academic Master Plan 2000
<i>Although diversity of educational programs and goals will be a major determining factor in the selection of information technology resources by an institution, there must be a reasonable infusion of information technology into the curricula so that students exit with the fundamental knowledge and basic ability to use these resources in everyday life and in future occupations.</i>	In Compliance	<ul style="list-style-type: none"> • Information Resources Strategic Plan 2001-2005 • Academic Master Plan 2000 • Departmental Inventories
<i>Institutions must provide the means by which students may acquire basic competencies in the use of computers and related information technology resources.</i>	In Compliance	<ul style="list-style-type: none"> • Departmental Inventories
<i>There must be provisions for ongoing training of faculty and staff members so that they may make skillful use of appropriate application software. These requirements apply to all programs wherever located or delivered.</i>	In Compliance	<ul style="list-style-type: none"> • Information Resources Strategic Plan 2001-2005, Goal 1 – Objective 1 – Strategy 1 & 2, Goal 3 – Objective 4 – Strategy 12 • Academic Master Plan 2000, Goal 5, Recommendation 49
<i>Policies for allocation and use of information technology resources must be clearly stated and consistent with an institution's purpose and goals.</i>	In Compliance	<ul style="list-style-type: none"> • Information Resources Strategic Plan 2001-2005 IR Priorities p. 10 • Academic Master Plan 2000, Goal 5, Recommendation 44
<i>These policies must be evaluated regularly to ensure that</i>	In Compliance	<ul style="list-style-type: none"> • Information Resources Strategic Plan 2001-2005 IR Priorities p. 10

Must Statement	Compliance Status	Documentation
<i>academic and administrative needs are adequately addressed.</i>		
<i>Appropriate security measures must be installed and monitored to protect the confidentiality and integrity of academic systems, administrative systems, and institutional networks.</i>	In Compliance	<ul style="list-style-type: none"> • Information Resources Strategic Plan 2001-2005 Security, p. 14